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THE ROLE OF SERVICE PROVIDERS ON CLOUD COMPUTING TECHNOLOGY FOR A SUSTAINABLE COMPUTER NETWORK

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ABSTRACT

The Quality of service (QoS) is the overall performance of a networking system of telephonic system and Communication technology particularly the performance seen by the users of the network .To quantitatively measure quality of service, several related aspects of the network service are often considered, such as error rates, bandwidth, throughput, transmission delay, availability, jitter, etc. Quality of service is particularly important for the transport of traffic with special requirements. In particular, much technology has been developed to allow computer networks to become as useful as telephone networks for audio conversations, as well as supporting new applications with even stricter service demands. Cloud made it easy for an organization to increase its capability without actually adding new infrastructure, new software or updating existing technology; as it is Internet based system for providing services to the end users on pay per usage basis. Cloud computing reduces cost of computation & storage to a large extend and also improves productivity. From few days cloud has grown from a promising business application to fastest growing IT industries .Cloud offers services such as storage, computation & applications etc for different types of markets such as health care, net banking, several government organizations and other financial applications. Now many popular educational institutes and enterprises are also getting their applications and data shifted to the cloud.

In this invited research article we summarize different classifications and service models of the cloud. In further sections major characteristics and working of cloud is discussed. Next section discusses the general implementation requirements for cloud computing. Also its comparison with the Grid computing is mentioned in next part. Like other online applications cloud computing security also has several downsides. In the last sections major benefits and downsides of cloud computing technology has a wide range of application in every sector of service providers.

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Keywords: Cloud Computing Technology (CCT), Security Services (SS), Computational Transparency (CT), Private- Public- Community (PPC), Hybrid –Transparent (HT),

1. INTRODUCTION

Now-a-days, the Network Quality of Service (NQoS) is a relatively new term in the field of Soft Computing technology & it's Service, which is defined as: "The capability to control traffic-handling mechanisms in the network such that the network meets the service needs of certain applications and users subject to network policies". To provide the capabilities of measure and control required by either definition, QoS networks must have mechanisms to control the allocation of resources among applications and users.

The notion of QoS came up as a response to the new demands imposed on the network performance by modern applications, especially multimedia real-time applications. Those applications made it necessary to set limitations on what can be defined as an acceptable time delay when routing information over a network. Those time demands are classified into three main categories. The first is the subjective human needs for interactive computing such as chatting sessions and other interactive web applications. The second is the automated tasks under time constraints such as the automated once-per-day backups during a limited pre-assigned time period. The third category is the need of some applications for a transmission rate with limited jitter along with a temporal ordering of the transmitted packets. This is the case when streaming multimedia over a network. The transmission rate is needed to keep the transmitted material meaningful and perceptible while the preserved temporal order is needed for synchronization.

The temporal requirements presented above are intrinsic to QoS that some references define QoS in terms of those requirements. Webster's New World Dictionary of Computer Terms defines QoS to be "the guaranteed data transfer rate". The word "guaranteed" is of special importance since QoS can only be implemented through guarantees on the limits of some network parameters as will be explained below.

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It is important here to note that although QoS became an issue only in the past few years, but the idea of QoS had been envisioned earlier before new applications mandated the use of QoS. In the initial IP specification, a Type of Service (ToS) byte is reserved in the IP header to facilitate QoS. Until the late 1980s, almost all IP implementations ignored the ToS byte since the need for QoS was not yet obvious.

2. LITERATURE REVIEW

In this literature Review the researcher has focused about the proposed article titled as "**The Role of Service Providers on Cloud Computing Technology for a Sustainable Computer Network"** where as the article has emerged various data from different segmentations that's why the researcher have been interested and proposed to collect the numerical data from the field through method of survey, method of observation, questionnaires and personal interactions with number of peoples from the field of marketing agencies, publishers, advertisers, media persons(print and electronics), journals, resource persons etc.

Initially, the researcher has focused about the quality of service (QoS) on cloud computing technique how influenced and mobilized to adopting the general principles of network based computing. After used this techniques, the researcher has compared to both groups of hardware and software internet infrastructure, services and its applications in the field of communication. Henceforth ,the researcher has highly interested to study and analyze various segmentations i.e. Cloud computing techniques & its application ,to know the difference between Cloud VS Grid, Types of cloud computing ,Architecture Services ,Cloud Sims ,Hadoop & HDFS etc thoroughly in order to test about its authenticity. Again the researcher has taken to consideration of its hypothesis test by taking two variables i.e. independent variables(H_1) and dependent variable(H_2)whereas, Independent variable (First) which contains many independent Task of Research Work (IToRW) .i.e. The Role of Service Provider has a positive impact on the Cloud Computing for Sustainable Net- Work(H_o) and the second variable or Dependent variables that consists a bag-of-task (BoT) (H_e) which are

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inter connected to the first variable for enhancing the work flow, scheduling & cloud computing techniques for minimization of Service and Maximization of Net-Working .By the way, the researcher have welcomed to the young researchers ,professors ,academicians ,journalists, etc. for giving their valuable feed-back regarding the said article published by the researcher in order to facilitate its literature grooming and further development of research work in the future course of action. Thus, let to be analyzed as planned as above.

Finally we the researcher hopefully to be found its adequate result in order to conclude the said research title has taken by the researcher with justifying its hypothesis that "**The Role Of Service Providers On Cloud Computing Technology For A Sustainable Computer Network**" which has played by Game theory and it's Algorithm Compared with the Work flow Rate of net work scheduling. With reaching the following conclusion that, when the multiple advanced version of cloud computing techniques has implemented on the game theory, the bags of Tasks (BoTs) has slowly convergence in a central point computing system and in result the performance of algorithm has highly computational and it reduces the economic cost. .

3. AIM & OBJECTIVES OF THE RESEARCH

- To maintain the flexibility in between the variability by which it ensure resource – intensive process shall be well utilized.
- It focuses & enables to construct IT infrastructure in various sector.
- It enables quick scale of IT operation in new computing resources.
- It focuses and consumes economical benefits to the service provider as well as the consumer by implementing IT cloud computing in various variables.

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- It improves cloud computing techniques more scientifically to use for enhancing inherited resiliency.

- It is highly auto mated to implement in IT structure with high quality of service provide to the customer

4. RESEARCH METHODOLOGY

As other researcher had adopted the methods of research work, we also proceed the same way. But we take little bit difference in the way of data collection and presentation .In data collection; we have followed both the method of primary data collection, and Secondary mode of data collection, particularly application of empirical method of data is as less as used than the first method.

4.1Problem Formulation :(Multi Objective Scheduling Integer programming)

In this invited research article, we have taken Q units as a discrete resource and T activities; the problem is to distribute the resource among activities to optimize M Objectives. In practice, some benefit-type objectives need to be maximized and some cost-type objectives need to be minimized simultaneously. Without loss of generality, we can convert the maximization objectives to minimization objectives by multiplying a negative constant. Let $_{ftj}$ $(_{xt})$ be the minimization function of the *j the* objective which is dependent upon the quantity $_{xt}$ of resource the activity *t consumes*. The quantity of resource allocated to activity *t* is constrained in the range $[_{at,bt}]$. Formally, the MORAP problem is formulated as the following integer program.

Equation (1)

$$\text{Min} \quad Z_j(\boldsymbol{X}) = \sum_{t=1}^{T} f_{tj}(x_t) \quad \forall j = 1, 2, \ldots, M,$$

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Equation (2)

$$\text{subject to} \quad \sum_{t=1}^{T} x_t = Q,$$

Equation: 2

$$0 \leqslant a_t \leqslant x_t \leqslant b_t \leqslant Q \quad \forall t = 1, 2, \ldots, T,$$

$$x_t \in \text{integer}.$$

The objective functions (1) represent the M objectives to be minimized. The resource allocation decision $\boldsymbol{X} = \{x_i\}_{1 \leqslant i \leqslant T}$ is a T -dimensional variable which should satisfy all the resource constraints. Constraint (2) ensures that all quantities of resource are used out by the activities. Constraint (3) consists of T constraint functions enforcing that the quantity x_t of resource allotted to activity t is constrained between the lower bound a_t and the upper bound b

4.2 Hypothesis

We have taken the hypothesis in anticipation of the said research problem that "The Role of Service Provider have a positive impact on the Cloud Computing for Sustainable Net- Work (H_o)" and the second variable or Dependent variables that consists a bag-of-task (BoT) (H_e) which are inter connected to the first variable for enhancing the work flow, scheduling & cloud computing techniques for minimization of Service and Maximization of Net-Working"

4.3 Role of workflow on Computer Network Scheduling

(i)Scheduling on Community Grids

(iii)Minimize the execution time ignoring other factors such as monetary cost of resource access and various users' QoS satisfaction levels.

4.4. Scheduling on Utility Grids

(i)Optimize performance under most important QoS constraints imposed by users.

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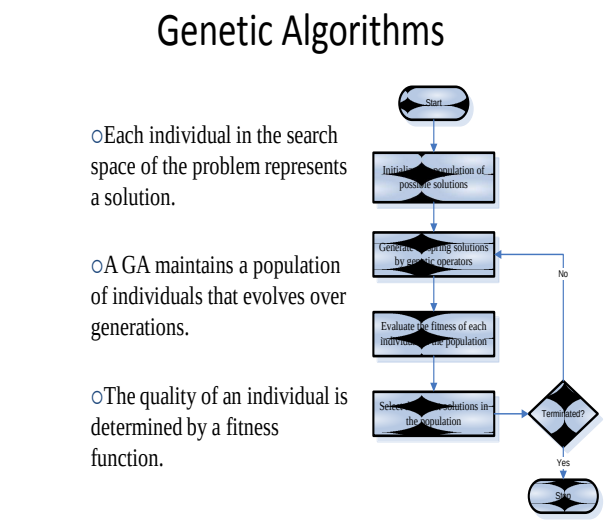
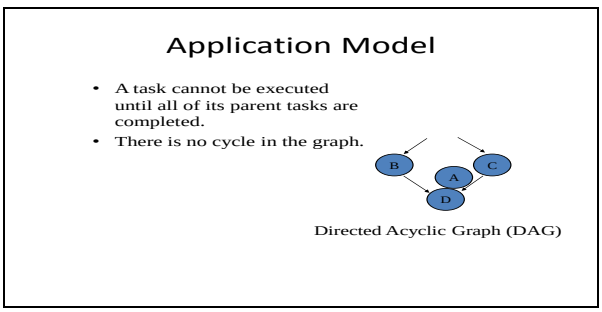
(ii)Minimize execution cost while meeting a specified deadline.

(iii)Minimize execution time while meeting a specified budget.

4.5Genetic Algorithm

- Random search method based on the principle of evolution.
- Exploitation of best solutions from past searches.
- Exploration of new regions of the solution space.
- A high-quality solution to be derived from a large search space**.**





Application Model No: 03

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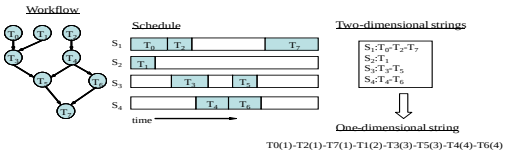
4.6 Construction of a Genetic Algorithm

- Representation of individual in the population.
- Determination of the fitness function.
- Design of genetic operators.

Problem encoding



T0(1)-T2(1)-T7(1)-T1(2)-T3(3)-T5(3)-T4(4)-T6(4)

Fitness function

- Cost-fitness: encourages the formation of the solutions that achieve the budget constraint.

$$F_{cost}(I) = \frac{c(I)}{B}$$

$c(I)$ is the sum of the task execution cost and data transmission cost of I, and B is the budget of the workflow.

- Time-fitness: encourages the GA to choose individuals with earliest completion time in the current population.

$$F_{time}(I) = \frac{t(I)}{maxTime}$$

where $t(I)$ is the completion time of I and $maxTime$ is the largest completion time of the current population.

- Fitness function

$$F(I) = \begin{cases} F_{cost}(I), & if\ F_{cost}(I) > 1 \\ F_{time}(I), & otherwise \end{cases}$$

5. GENETIC OPERATORS

5.1 Selection

Retain fittest individuals in the population as successive generations evolve.

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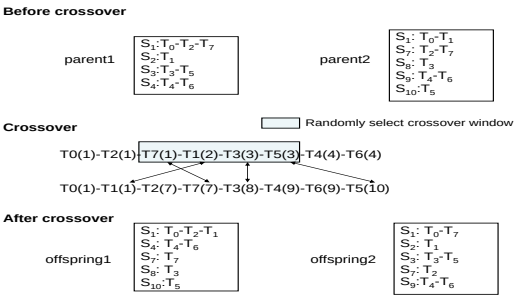
5.2Crossover

Produce new individuals by combining the two existing individuals.

(a)Mutation



(b)Mutation operations:

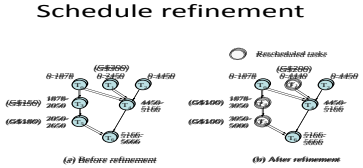
Allow a certain offspring to obtain features that are not possessed by either parent.

(c)Swapping mutation

Swapping mutation aims to change the execution order of tasks in an individual that compete for a same time slot.

(d)Replacing mutation

Replacing mutation aims to re-allocate an alternative service to a task in an individual.



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(i)Flexibility - Cloud computing allows universities to expand or contract computing power as required and allows "bursts" of computing power to be utilized on an "on-demand" basis. This flexibility helps ensure resource-intensive processes will not slow down other business processes and computing services are always operating at optimal cost.

(ii)Scalability - Cloud computing enables universities to quickly scale up their IT operations as provisioning of new computing resources and software applications can be delivered at a desired pace. Furthermore, constraints on pre-purchasing of resources to meet peak requirement in traditional IT no longer exist.

(iii)Economics - Traditional IT has multiple fixed and variable cost elements. In order to fulfill business requirements and sustain day-to-day business operations, universities must invest a large fixed amount for initial IT infrastructure establishment and continue to spend variably for software and hardware maintenance. By outsourcing IT functions to the cloud, universities can leverage the features of a lean IT structure to reduce the overall IT expenditures involved in software licensing, infrastructure development, on-going support and upgrades.

(iv)Inherited Resiliency:

Cloud computing removes single points of failure since the Internet is a highly resilient computing environment. Some competitive service providers also add extra functionalities to enhance resiliency. For example, the "Availability Zones" and "Elastic IP Address" features of Amazon.com EC2 allow multi-location of application software and dynamic IP address re-mapping mechanism in an event of service interruption.

(v)Highly Automated - Cloud computing services are maintained by dedicated IT professionals of cloud service providers. As a result, universities' IT staff no longer need to worry about complex details behind the delivered computing services, such as hardware maintenance, constant software update, etc.

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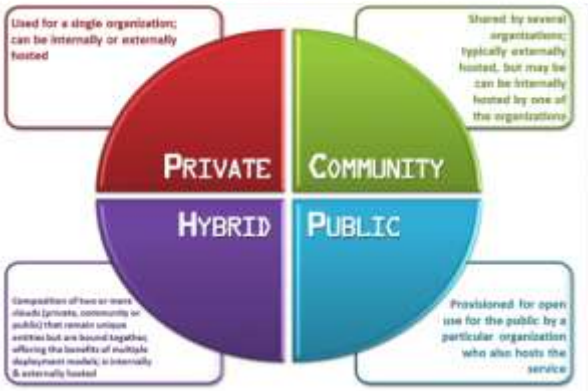
6. CLOUD COMPUTING ARCHITECTURE



Models of Cloud Computing Architecture. (Figure: 1)

With cloud computing technology, large pools of resources can be connected through private or public networks. This technology simplifies infrastructure planning and provides dynamically scalable infrastructure for cloud based applications, data, and file storage. Businesses can choose to deploy applications on Public, Private, Hybrid clouds or the newer Community Cloud.

What are the differences between these types of cloud computing, and how can you determine the right cloud path for your organization? Here are some fundamentals of each to help with the decision-making processes

7. WHAT IS CLOUD COMPUTING SERVICE?

Computing as a service over the Internet

Cloud computing, often referred to as simply “the cloud,” is the delivery of on-demand computing resources—everything from applications to data centre’s—over the Internet on a pay-for-use basis.

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8. TYPES OF CLOUD COMPUTING ARCHITECTURE

(A)Software as a Service (SAAS)

(B)Platforms as a Service (PASS)

(C) Infrastructure as a Service (IAAS)

8.1. Software as a service (SaaS)

Cloud-based applications or software as a service (SaaS), run on distant computers "in the cloud" that are owned and operated by others and that connect to users' computers via the Internet and, usually, a web browser.

8.2. Platform as a service (PaaS)

Platform as a service provides a cloud-based environment with everything required to support the complete life cycle of building and delivering web-based (cloud) applications—without the cost and complexity of buying and managing the underlying hardware, software, provisioning and hosting.

8.3. Infrastructure as a service (IaaS)

Infrastructure as a service provides companies with computing resources including servers, networking, storage, and data centre space on a pay-per-use basis.

9. CLOUD COMPUTING DEPLOYMENT MODEL

9.1. *Public cloud*

Public clouds are owned and operated by companies that use them to offer rapid access to affordable computing resources to other organizations or individuals. With public cloud services, users don't need to purchase hardware, software or supporting infrastructure, which is owned and managed by providers.

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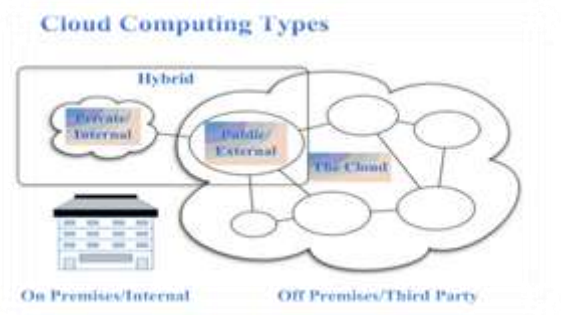
9.2 *Private cloud*

A private cloud is owned and operated by a single company that controls the way virtualized resources and automated services are customized and used by various lines of business and constituent groups. Private clouds exist to take advantage of many of cloud's efficiencies, while providing more control of resources and steering clear of multi-tenancy.

9.3 *Hybrid cloud*

A hybrid cloud uses a private cloud foundation combined with the strategic use of public cloud services. The reality is a private cloud can't exist in isolation from the rest of a company's IT resources and the public cloud. Most companies with private clouds will evolve to manage workloads across data centers, private clouds and public clouds—thereby creating hybrid clouds.

9.4 Cloud Computing Model (Figure: 2)



10. SERVICE MODELS

10.1 Cloud Software as a Service (SaaS)--The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through a thin client interface such as a web browser (e.g., web-based email). The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application

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capabilities, with the possible exception of provider-defined user-specific application configuration settings

10.2 Cloud Platform as a Service (PaaS)*:*

The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, or storage, but has control over the deployed applications and possibly application hosting environment configurations

10.3 Cloud Infrastructure as a Service (IaaS)*:*

The capability provided to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud physical infrastructure but has control over operating systems, storage, deployed applications, and possibly limited control of select networking components.

11. DEPLOYMENT MODELS

11.1 Private cloud:

The cloud infrastructure is operated solely for an organization. It may be managed by the organization or a third party and may exist on premise or off premise

11.2 Community cloud*:*

The cloud infrastructure is shared by several organizations and supports a specific community that has shared concerns (e.g., mission, security requirements, policy, and compliance considerations). It may be managed by the organizations or a third party and may exist on premise or off premise

11.3 Public cloud:

The cloud infrastructure is made available to the general public or a large industry group and is owned by an organization selling cloud services

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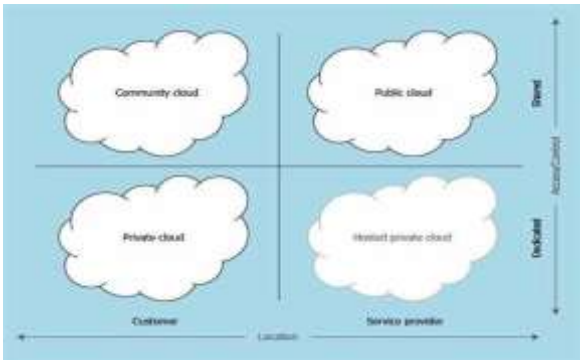
11.4 Hybrid cloud:

The cloud infrastructure is a composition of two or more clouds (private, community, or public) that remain unique entities but are bound together by standardized or proprietary technology that enables data and application portability (e.g., cloud bursting for load balancing between clouds)

Two dimensions are used to classify the various deployment models (See Figure 3**)** for cloud computing:

Where the service is running: On customer premises or in a service provider's data centre

Level of access*:* Shared or dedicated



[Cloud computing Deployment Models] **[Figure:- 3]**

Our reference architecture will be based upon the NIST definition as we define the core principals, concepts and patterns used throughout the reference architecture and subsequent implementation guidance in this content series. The reference architecture will consist of reference frame that outlines the overall cloud computing stack based on the NIST definition and defines the core principals, concepts and patterns of good reference architecture. This is then followed by service delivery guidance to guide the business on solution based delivery of an on-premise private cloud infrastructure.

The reference architecture presented contain practices that are independent of any specific platform provider and generally should be present on any Infrastructure as a Service platform or service engagement available from or through a provider of cloud based computing capability. Where applicable we will link with solution implementation guidance that is based

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on the use of Microsoft Server products to illustrate the capability discussed in the reference architecture.

12. NEW CHOICES FOR DELIVERING IT

The cloud provides options for approach, sourcing, and control. It delivers a well-defined set of services, which are perceived by the customers to have infinite capacity, continuous availability, increased agility, and improved cost efficiency. To achieve these attributes in their customers' minds, IT must shift its traditional server-centric approach to a service centric approach. This implies that IT must go from deploying applications in silos with minimal leverage across environments to delivering applications on pre-determined standardized platforms with mutually agreed service levels. A hybrid strategy that uses several cloud options at the same time will become a norm as organizations choose a mix of various cloud models to meet their specific needs.

13. DEPLOYMENT MODELS

Deployment models (shared or dedicated, and whether internally hosted or externally hosted) are defined by the ownership and control of architectural design and the degree of available customization. The different deployment models can be evaluated against the three standards - cost, control, and scalability.

[An infrastructural models of Cloud deployment (Ownership and control) Figure-6]

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14. PUBLIC CLOUD

The Public Cloud is a pool of computing services delivered over the Internet. It is offered by a vendor, who typically uses a “pay as you go” or "metered service" model. Public Cloud Computing has the following potential advantages: you only pay for resources you consume; you gain agility through quick deployment; there is rapid capacity scaling; and all services are delivered with consistent availability, resiliency, security, and manageability. Public Cloud options include:

14.1 Shared Public Cloud: The Shared Public Cloud provides the benefit of rapid implementation, massive scalability, and low cost of entry. It is delivered in a shared physical infrastructure where the architecture, customization, and degree of security are designed and managed by the provider according to market-driven specifications

14.2 Dedicated Public Cloud: The Dedicated Public Cloud provides functionality similar to a Shared Public Cloud except that it is delivered on a dedicated physical infrastructure. Security, performance and sometimes customization are better in the Dedicated Public Cloud than in the Shared Public Cloud. Its architecture and service levels are defined by the provider and the cost may be higher than that of the Shared Public Cloud, depending on the volume

15. PRIVATE CLOUD

The private cloud is a pool of computing resources delivered as a standardized set of services that are specified, architected, and controlled by a particular enterprise. The path to a private cloud is often driven by the need to maintain control of the

Service delivery environment has creates because of application of soft computing Technology application maturity, performance requirements of industries /Companies or government regulatory controls and business differentiation reasons. For example, banks and

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governments have data security issues that may preclude the use of currently available public cloud services. Private cloud options include:

15.1Self-hosted Private Cloud: A Self-hosted Private Cloud provides the benefit of architectural and operational control, utilizes the existing investment in people and equipment, and provides a dedicated on-premise environment that is internally designed, hosted, and managed

15.2Hosted Private Cloud: A Hosted Private Cloud is a dedicated environment that is internally designed, externally hosted, and externally managed. It blends the benefits of controlling the service and architectural design with the benefits of data centre outsourcing

15.3Private Cloud Appliance: A Private Cloud Appliance is a dedicated environment that procured from a vendor is designed by that vendor with provider/market driven features and architectural control, is internally hosted, and externally or internally managed. It blends the benefits of using predefined functional architecture, lower deployment risk with the benefits of internal security and control

The array of services delivered by the combination of service and sourcing models can be dizzying. CIOs will need to evaluate their business requirements and the experience of the provider to select the appropriate Cloud models.

15.4 Schematic Model of Cloud Computing in Pie Chart:

In this research paper ,the researcher have focused on 200 companies,250 offices,300 Engineering Colleges,50 Universities ,and 150 Service providers(Agents).As per their positive response, we recorded the data i.e. 220(250),260(300),45(50),14591500180(200), and keep it in a data centre, which is Managed by a Management Group. Due to smooth Management, the ERP Group performed well in all sectors of office management and other activities. Keeping in mind, of the proposed hypothesis, we muted all the availed data and cross over them & finally obtained this ratio value for the future researcher's kind perception to the techniques of Cloud Computing. i.e.

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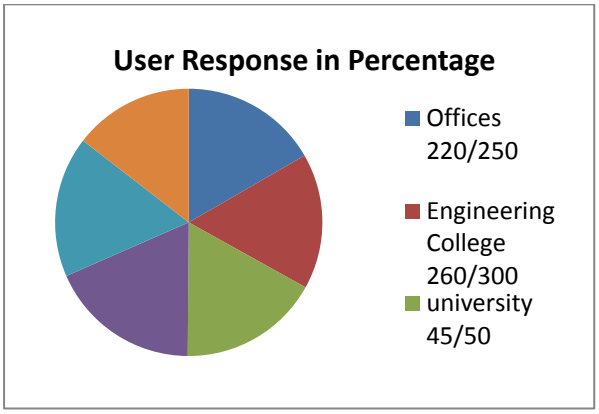
15.5. User-Model of Cloud Computing: [Table-3]

Customer Response Model:

Name of Companies	No of Respondent	Percentage
Offices	220/250	0.88
Engineering College	260/300	0.8666
University	45/50	0.9
service provider	145/150	0.9666
Companies	180/200	0.9
Total =	725/945	0.767

NB: [Data's are collected through the Primary Mode of data Collection through on line survey]



[User response Model in Pie Chart : 01]

Researchers have trying to their level best to testing the reliability and volition of test, by using methods of research Methodology, using the method of correlation & testing the relationship of two variables (H_1) and (H_2) with comparison.

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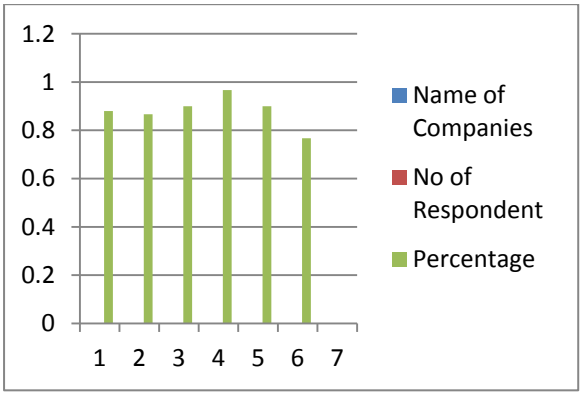
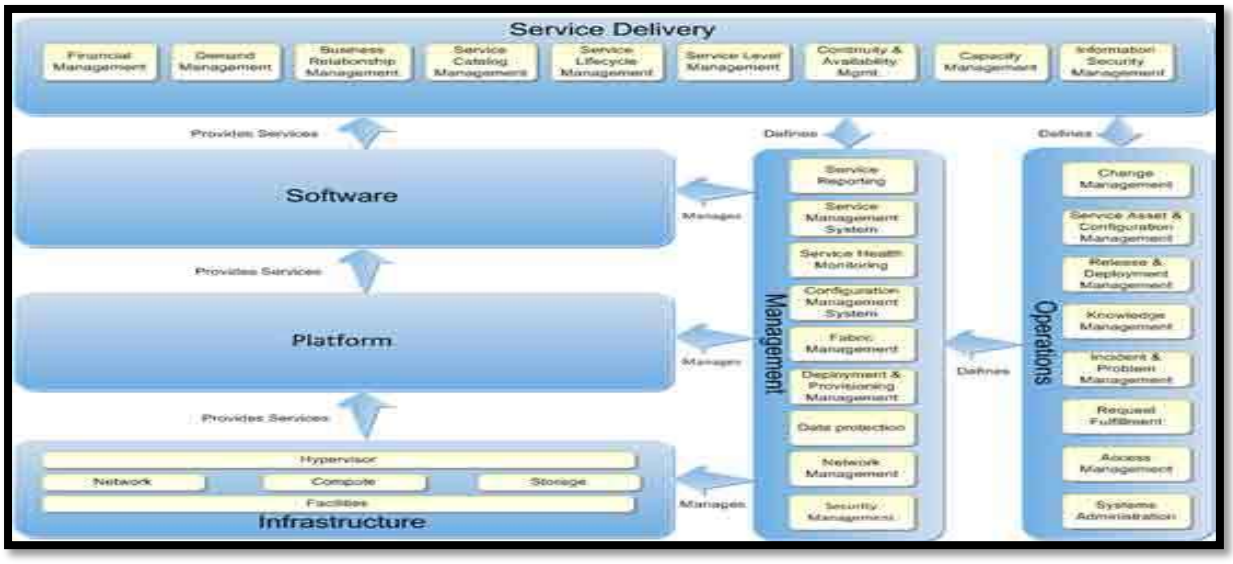
Semiotic Model of Cloud Computing in Graphical Form:

Similarly, in the semiotic Model, the user's responses are focused about the service provider's efficiency how the users are likes. Their responses are showed in graphical form in percentage.



[Semiotic Model of Cloud computing in Graphical form](Graph: 02)



(Comparison of Cloud Deployment Model on service delivery (Figure: 07)

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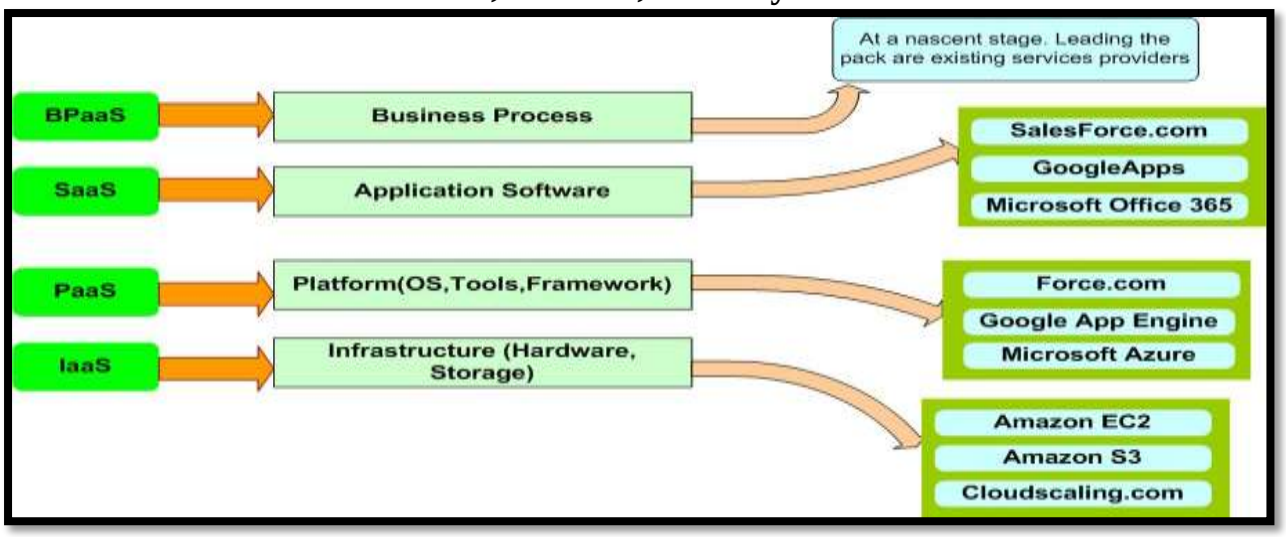

[A diagrammatic representation of cloud Computing service Model:-Figure-8]

16. APPLICATION OF CLOUD COMPUTING ARCHITECTURE IN VARIOUS SECTORS OF IT

Here are a couple of situations where a hybrid environment is best:

Your company wants to use a SaaS application but is concerned about security.

Your company offers services that are tailored for different vertical markets. You can use a public cloud to interact with the clients but keep their data secured within a private cloud.

You can provide public cloud to your customers while using a private cloud for internal IT.

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17. COMPONENTS OF CLOUD COMPUTING COMMUNITY IN VARIOUS SECTORS

A community cloud is a is a multi-tenant cloud service model that is shared among several or organizations and that is governed, managed and secured commonly by all the participating organizations or a third party managed service provider.

Community clouds are a hybrid form of private clouds built and operated specifically for a targeted group. These communities have similar cloud requirements and their ultimate goal is to work together to achieve their business objectives. The goal of community clouds is to have participating organizations realize the benefits of a public cloud with the added level of privacy, security, and policy compliance usually associated with a private cloud. Community clouds can be either on-premise or off-premise.

Here are a couple of situations where a community cloud environment is best:

Government organizations within a state that need to share resources

A private HIPAA compliant cloud for a group of hospitals or clinics

Telco community cloud for Telco DR to meet specific FCC regulations

Cloud computing is about shared IT infrastructure or the outsourcing of a company's technology. It is essential to examine your current IT infrastructure, usage and needs to determine which type of cloud computing can help you best achieve your goals. Simply, the cloud is not one concrete term, but rather a metaphor for a global network and how to best utilize its advantages depends on your individual cloud focus.

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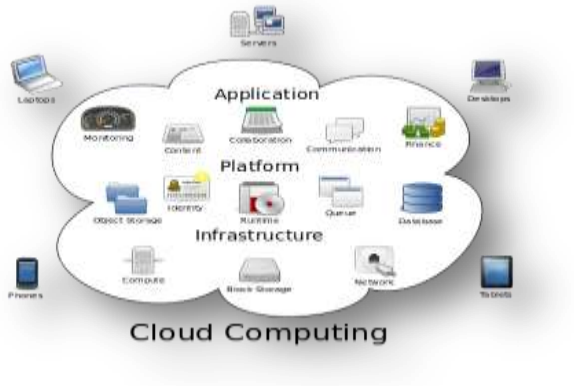

[Cloud Computing Model of IT Fig. -4]

18. STEPS OF CLOUD COMPUTING SERVICES

Architecture is followed by five steps:

Step 1: client first sends a job to the cluster administrator.

Step 2: client A sends a map reduce job-1 to the job tracker with the name of the data.

Step 3: job tracker sends the job to all task trackers who holds the block of data.

Step 4: each task tracker execute a specific task on each block and send the result back to the job tracker.

Step 5: job tracker sends the final result to client A.

Hence, we observed that reducing the number of nodes results in increasing clusters. However when we execute the map reduce architecture job in the same clusters for more than one time, each time it takes the same amount of time which is a serious problem.

19. BASIC CLOUD CHARACTERISTICS

The "**no-need-to-know**" in terms of the underlying details of infrastructure, applications interface with the infrastructure via the APIs .The "**flexibility and elasticity**" allows these

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systems to scale up and down at will utilizing the resources of all kinds CPU, storage, server capacity, load balancing, and databases. The **"pay as much as used and needed"** type of utility computing and the "always on! Anywhere and any place" type of network-based computing. Cloud are transparent to users and applications, they can be built in multiple ways .Branded products, proprietary open source, hardware or software, or just off-the-shelf PCs. In general, they are built on clusters of PC servers and off-the-shelf components plus Open Source software combined with in-house applications and/or system software.

20. RESEARCH FINDINGS FOR FUTURE WORK

The assigned research work has originally written by the researcher and it was not published partially or fully our time before elsewhere by us. Thus ,as the researcher ,we have got the following research findings from the afore mentioned research work done by me & interested to recommend to the young researchers, students ,journal writers, professors etc. for their kind perusal and sharp perception and awaiting some valuable feed-back from them in order to improving the said article in the future course of action.i.e.

- Cloud computing is a new and modern technology which promising to delivering IT services through the service provider to the customer for its optimum utilization.
- It would be designed to provide services to external users, by the service providers where they need to be compensated for sharing their resources and capabilities.
- Cloud computing has always based on service oriented as well as task oriented for practice of marketing strategy at market.
- By cloud computing technology, the states of art technology have limited support for Market-Oriented -Resource –Management (M-O-R-M) and they need to be extending support in between of quality of service (QoS) provided by users to establish SLAs : mechanisms and algorithms for allocation of requisite resources.

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- Cloud Computing as a better platforms becomes ubiquitous. Thus we expect the need for internet working in all segmentations in order to create market-oriented global clouds exchanges for trading services.
- Cloud computing has always proved as a market creator or maker for bringing service provider and consumers.
- Finally cloud computing techniques & other related paradigms need to be coverage so as to produce unified and interoperable platforms for delivering IT services.

21. LIMITATIONS

(a) It has not focused about the area of cloud computing as a whole, because of its limitation in power & availability.

(b) It is not given any guaranty to the Service user regarding its 24X7 hours of service. Sometimes it is failure due to some reason.

22. CONCLUSION

In concluding paragraph of the said titled of proposed research work, the researcher has been red and followed number of international and national research journal in order to reviewing the multi scheduling techniques of cloud computing techniques by the service provider for providing a better net-working system in every segmentation of the society. Thus, we hopes for a better research work for the future generation of research work. Thus the Cloud computing is a new and modern technology which promising to delivering IT services through the service provider to the customer for its optimum utilization and it would be designed to provide services to external users, by the service providers where they need to be compensated for sharing their resources and capabilities Cloud Computing as a better platforms becomes ubiquitous in the state of cloud computing when we use the multi objectives scheduling of cloud computing techniques ,by taking algorithm and game theory. We expect the need for internet working in all segmentations in order to create market-

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oriented global clouds exchanges for trading services. Cloud computing has always proved as a market creator or maker for bringing service provider and consumers.

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