Term paper

On

CLOUD COMPUTING FOR SMALL SIZED BUSINESS

Report submitted in partial

Fulfillment of the Requirement for the Award of the Degree

of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE & ENGINEERING

By

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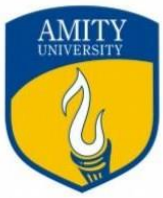
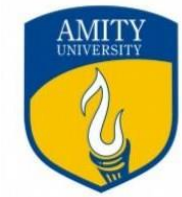


Department of Computer Science and Engineering

Amity School of Engineering & Technology

Amity University, Madhya Pradesh

November, 2020



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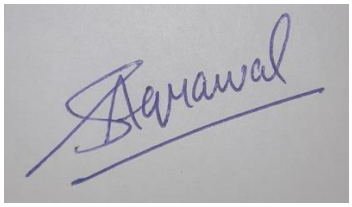
DECLARATION

I, **KSHITIJ AGRAWAL** student of Bachelor of Technology in Computer Science Engineering hereby declare that the Term Paper entitled **" CLOUD COMPUTING FOR SMALL SIZED BUSINESS "** which is submitted by me to Department of computer Science Engineering, Amity School of Engineering & Technology, Amity University Madhya Pradesh, in partial fulfillment of the requirement for the award of the degree of Bachelors of Computer Science Engineering, has not been previously formed the basis for the award of any degree, diploma or other similar title or recognition.



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CERTIFICATE

This is to certify that **Kshitij Agrawal(Enrollment No. A60205219075)**, student of B.tech(CSE) III semester, Department of Computer Science Engineering, ASET(Amity School Of Engineering & Technology), Amity University Madhya Pradesh , has written his Term paper entitled **" CLOUD COMPUTING FOR SMALL SIZED BUSINESS "**under my guidance and supervision.

The work was satisfactory. He has shown complete dedication and devotion to the given work.

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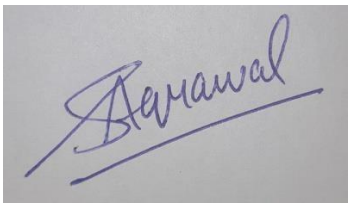

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ABSTRACT

Cloud Computing in laymen terms if we define is basically saving or sharing your data to distant locations or distributing your or someone else's resources to different locations for satisfying the needs of on-demand users. The term **CLOUD** means computing location independent online utility which is useable on-demand. It is necessary because sometimes the hard disks or resources in your system are not sufficient to fulfil your needs. The need can be network and resources of your organisation. It can vary from big MNCs to big companies to small scale businesses to even a group of individuals who wants more data, network, resources to satisfy their needs. It's like renting someone else's computer in order to run or perform the tasks which you are not capable of doing it yourself. It is in a way similar to actual cloud which stores water molecules which is been from distant location and deliver or share it to altogether. That's why the name **Cloud Computing** came into usage. The advantage of this facility is that it satisfies the 'computing' needs of an organisation or a simple user. Now for a company they do not require to setup different data centres for storing their large chunks of data.

Keywords: Cloud Computing, Multi National Corporations, Network, Water Molecules.

LIST OF FIGURES

LIST OF ABBREVIATIONS

S. No.	Terms	Expanded Form
1.	IOT	Internet of Things
2.	MNC'S	Multi - National Companie's
3.	SMBS	Small Sized Business's
4.	SME'S	Small and Medium Size Enterprises
5.	CCT	Cloud Computing Technology
6.	PaaS	Platform as a Service
7.	SaaS	Software as a Service
8.	AWS	Amazon Web Services
9.	ARPANET	Advanced Research Projects Agency Network
10.	ASCII	American Standard Code for Information Interchange
11.	IT	Information Technology

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Chapter 1

INTRODUCTION

1. 1 Introduction to Cloud computing

Cloud computing may be a general term for all the world that involves delivering hosted services over the web. The history of cloud computing is that the history of business computing & the web. The Cloud Computing idea was coined by John McCarthy in 1961. within the past few years, several firms have embraced Cloud Computing technologies and are commencing to reap the rewards. several of those firms are currently mistreatment Cloud Computing Technologies to enhance internal efficiencies. Cloud-based technology will spur varied edges for organizations like capital investment savings, simplified operations, quantifiability, improved info visibility, property, tiny sized Business purpose, and increased accuracy and dependability. Cloud computing usage is increasing quickly, finding adopters in a very variety of recent business domains. several SMBs have begun to acknowledge the ability of cloud computing. A recent study conducted by Microsoft Corporation disclosed that seventy-eight p.c of tiny businesses can have tailored cloud computing by 2020. A report by IDC foreseen that SMBs cloud disbursal would grow by nearly twenty percent successive 5 years (International information Corporation, 2018). SMBs have totally different|completely different} IT needs and infrequently face different IT challenges than do massive enterprises. SMBs IT resources, as well as budget and employees ar typically extremely forced. Cloud Computing Technologies is particularly sensible for smaller organizations as a result of it reduces IT resources and also the time spent managing them. rather than counting on costly hardware, software package, and folks to manage them, tiny businesses will make the most of Cloud Computing Technologies's handiness, dependability, security, quantifiability, flexibility, and more. Several studies have known reasons for Small sized Businesss to migrate to the cloud and delineated the impact of Cloud Computing Technologies because it is adopted by SMBs. Among those SMBs that were mistreatment Technologies, obtaining new software package applications quicker, reducing IT work, and rising IT collaboration was mentioned as necessary edges of moving to CCT. common applications utilized by SMEs enclosed hosted desktop, storage and back-up, accounting and asking Human Resources, and Client Relations Management. in step with associate IBM survey of two,000 mid-size firms, sixty-six p.c of mid-size firms planned to implement cloud computing comes in 2017. seventy-five P.C planned to try and do this in conjunction with IT Infrastructure enhancements. According to a 2016 Gartner report, Cloud computing technology is probably the foremost promising and anticipated technology to come back around in a very variety of years. for a few SMBs, creating a significant move toward a cloud structure maybe thanks to considerably cut hardware prices. For others, CCT streamlines operations and race development cycles. Properly planned and enforced, Cloud Computing Technologies has the potential to drastically improve the operational potency of SMBs. A recent survey noticed that majority of SMBs (80 percent) would like to induce one bill for all their communication consumptions. this is often a perceived profit for SMBs to maneuver all communication services to one main service supplier.

As with new technology preparation, their ar a variety of problems to contemplate and overcome. “Going to the cloud” isn't as straightforward or simple as several users could believe. eminent deployments need exhaustive analysis of users, as well as desired business outcomes (cost savings, speed to plug, and augmented service levels) and services required. This study debate the benefits and downsides of implementing CCT for SMBs and examines challenges that SMBs face once adopting a
cloud-primarily based answer. to boot, this paper reviews totally different phases of CCT preparation in SMBs. Finally, the paper reviews common uses of CCT in SMBs and highlights time-saving tools out there from cloud-based services.

1.2Examples

1.2.1 AWS or Amazon Web services:

Is a secure cloud services platform, with the 'pay-as-you-go' requirement for upfront capital, available in a matter of seconds,with AWS he can also do identity and access management that is authenticating and authorising a program on the fly, helps in controlling auditing and managing identity, configuration and usage, easily available when required, and as we play amazon pay 100 of offers in cloud applications with features.

figure: 1.1 uses of Amazon Web Services in cloud services.

1.2.2 Microsoft azure

Azure cloud services to build, manage and deploy applications on a network with the help of tools and frameworks.themicrosoft azure is computing services created by Microsoft basically for building, testing, deployingand managing through a global network microsoft data mange centers.In this we can use also SAAS,IAAS,PAAS.

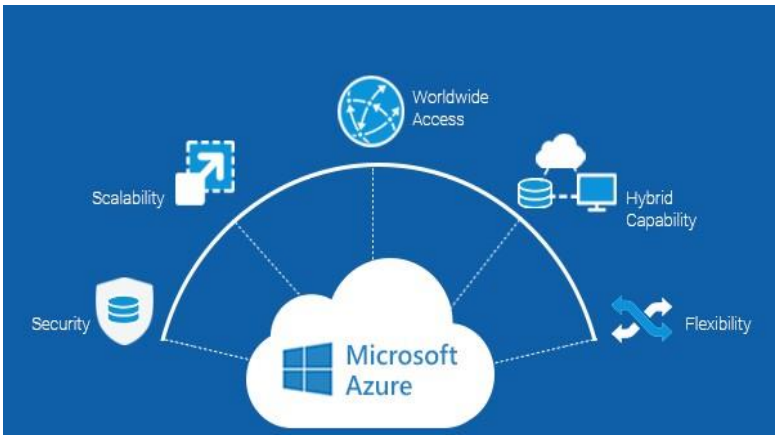

Figure: 1.2 acceses of using Microsoft Azure in cloude services

Chapter 2

LITERATURE REVIEW

It has been cited as ‘the fifth utility’ (along with water, electricity, gas, and telephone) whereby computing services unit immediately offered on-demand, like different utility services offered in today’s society. In 1969, author Kleinrock, one amongst each of the chief scientists of the initial Advanced analysis comes Agency Network (ARPANET) project that seeded cyber web, said: ‘As of presently, microcomputer networks unit still in their infancy, but as they mature and become refined, we'll altogether chance see the unfold of “computer utilities” that, like gift electrical and phone utilities, will service individual homes and offices across the country’. it's argued that cloud computing has begun to meet this vision of computing on demand. there is a colossal Cloud computing confusion among IT professionals and fully totally different clarification and definition for it. In New Style calendar month 2009, a study conducted by VersionOne found that forty 1st of senior IT professionals really don't understand what cloud computing is, and a simple fraction of senior finance professionals unit confused by the construct, highlight the young nature of the technology. in keeping with some authors cloud computing could also be a technology that uses world wide web and central remote servers to want care of knowledge and applications. Cloud computing permits shoppers and businesses to use applications whereas not installation and access their personal files at any pc with web access. Another definition is that Cloud Computing is Internet-based computing, whereby shared resources, software, and knowledge unit provided to computers and different devices on-demand, just like electricity. This technology permits much more economical computing by integrative storage, memory, method, and data live. Associate in Nursing example of cloud computing is GoogleDoc or Gmail, Yahoo, etc. For the utilization there's not any would really like for package or a server. All a consumer would want is simply an online association. The server and email management package is all on the cloud (internet) and is completely managed by the cloud service provider Yahoo, Google, etc. the patron gets to use the package alone and experience the advantages.

Chapter 3

TECHNOLOGY

3.1 CLOUD COMPUTING TECHNOLOGY

3.1.1 Cloud Computing Technology

The term “CLOUD” is employed to check with differing kinds of platforms for distributed computing – a cluster of servers, network, software, interface, etc. that users need to execute a selected task.

It refersthese service’s that users will utilize (Information Technology & Systems, 2017). The user doesn't have to be compelled to Owen a colossal computing infrastructure. Rather, the same infrastructure, owned by a 3rd party, and pay just for the number of computing they really use. This pay-per-use model permits for convenient, on-demand network access, and time-saving in building vast computing infrastructure. It permits the user to concentrate efforts on essential business activities. The user accesses info on-line during a 24/7 format from a spread of devices – desktop, laptop, tablet, and smartphone. As incontestible in Figure 3.1, cloud infrastructure is an Associate in Nursing umbrella that covers each necessary items for 24/7 pay-as-you-go service.

3.2.1 Essential Cloud Characteristics

The National Institute of Standards and Technology (NIST) describes 5 characteristics of a cloud computing model. This area unit paraphrased below and shown in Figure three.2:

3.2.1 On-demand self-service.

Server time, network storage, and alternative computing resources area unit obtained and designed PRN. No human interaction with the service supplier is needed.

3.2.2 Broad network access.

The service is accessed over network mistreatment multiple platforms (e.g. phones, tablets, laptops, and workstations).

Figure:- 3.1 Cloud Computing Technologies (CCTs)

3.2.3 Resource pooling.

Resources area unit pooled to serve multiple users. No user has exclusive use of the underlying hardware or package resources Physical and virtual resources area unit allotted and reassigned dynamically per demand.

3.2.4 Rapid physical property.

Resources scale quickly up and down with demand since they're elastically provisioned and discharged.

3.2.5 Measured service.

Metering is employed to mechanically optimize resource use (e.g., storage, processing, bandwidth, and active user accounts). It's an instantaneous relationship to cost.

3.3.1 Cloud readying Models

There area unit 3 widespread cloud computing readying models to delineate in the National Institute of Standards and Technology Special Publication 800-145 area unit shown in Figure 3.2 and delineate below:

3.3.1.1 PUBLIC CLOUD:-

> Here, the services area unit holds on off-site and accessed over the web.

> It may be utilized by the general public.

> All hardware, software, and alternative supporting infrastructure is owned and managed by the cloud provider.

> Example: Amazon net services and Microsoft Azure.

3.3.1.2 PRIVATE CLOUD:-

> The cloud infrastructure is employed completely by a single organization.

>The organization could run its personal cloud or source it to a hosting company.

>The service and infrastructure area unit maintained on a non-public network.

>Example: AWS, VMware.

3.3.1.3 HYBRID CLOUD:-

>This be a composite of a public and a non-public cloud, with info and peak workloads that have got to scale on-demand, whereas sensitive info is unbroken on a non-public cloud controlled by the organization. The hybrid commonest technique of cloud readying organization.

>Example: For a project independent agency is mistreatment the hybrid cloud computing deployment. Its ASCII text file cloud registered project NEBULA uses a non-public cloud for analysis and readying and additionally a public cloud to share information sets with external partners and also the public.

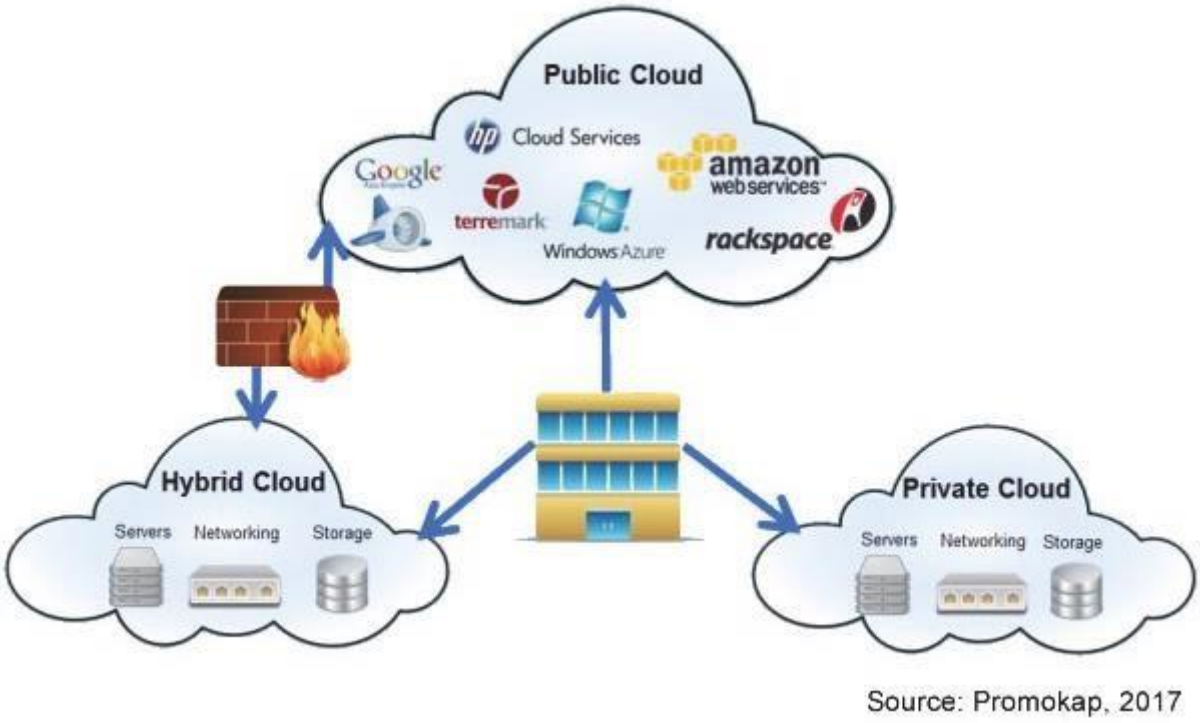

Figure : 3.2 Cloud Deployment Models

3.4.1 Cloud Computing Service Models

There area unit 3 main models for the delivery of cloud computing services. samples of every of the model's area unit printed below:

3.4.1.1 INFRASTRUCTURE AS A SERVICE[IAAS]:-

>You rent it infrastructure (servers and network etc.) from a cloud supplier on a pay-as-you-go basis.

>users of IAAS will outsource and build a "virtual information center" within.

>Example: AWS Elastic figure Cloud(EC2).

3.4.1.2 PLATFORM AS A SERVICE[PAAS]:-

> Package that may may be deployed.

>The cloud supplier permits the client to deploy their own applications mistreatment programming languages, tools, etc.

>Example:- AWS Elastic stalk.

3.4.1.3 SOFTWARE AS A SERVICE[SAAS]:-

>Cloud supplier host and manage the package application on a subscription basis.

>client maintains the management of a package setting however doesn't maintain any instrumentation.

>Example:- Amazon net Services

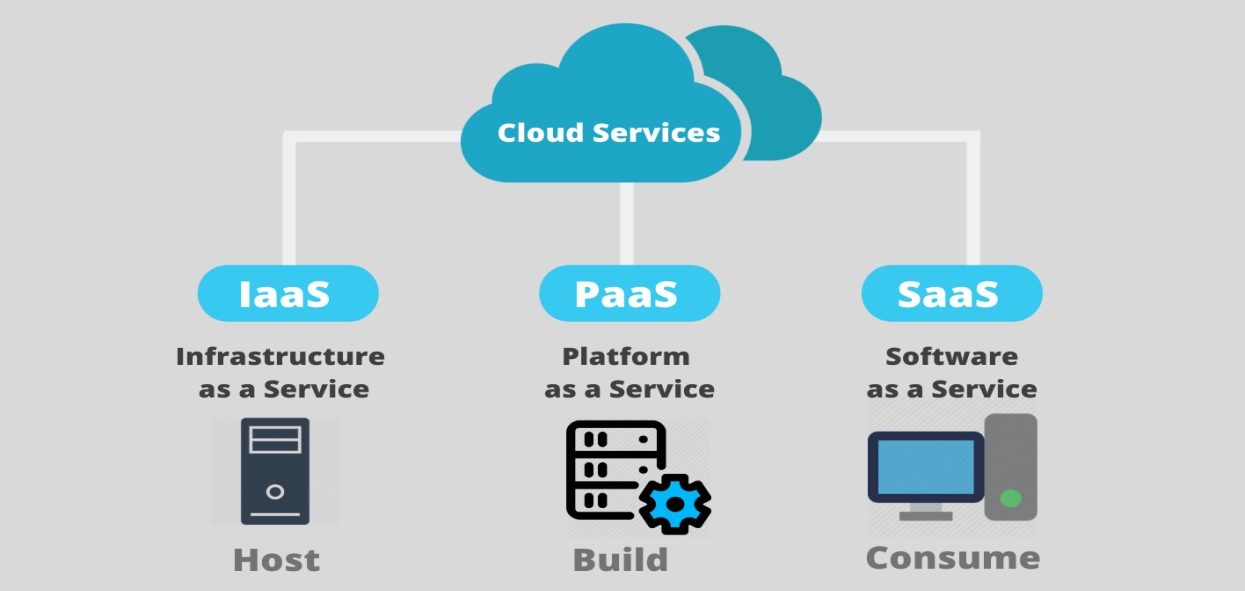

Figure: 3.3 Cloud Services

Chapter 4

Issues of Cloud Computing

Cloud Computing is associated with rising technology and has several challenges in varied aspects of data handling.

4.1 Issues in Cloud Computing:

4.1.1 Security:-

This can be a really massive challenge in cloud technologies that, is your information secure means your passwords square measure a lot of secured on user authentication, conjointly the access rights or not.

4.1.2 Privacy:-

This conjointly once more an enormous challenge for directors within the corporations that each one the data attendant with the project is going to be kept during a non-public place.

4.1.3 Interoperability:-

During this application on one platform ought to be able to incorporate services. It will be referred to as it's conjointly turning into attainable through net services.

4.1.4 Portability:-

Probability runs on a cloud platform which will be a move to a top new cloud platform in it. And conjointly it ought to operate properly. Also, movability isn't attainable, as a result of every one of the clouds provides uses for various customary languages to the platform.

4.1.5 Computing performance:-

As we all know that for cloud computing required high network information applications on the cloud, this ends up at a high price. in cloud computing, low information measure doesn't meet the specified computing performance.

4.1.6 Reliability:-

As we tend to see in most of the business we tend to square measure enthusiastic about service provided by the third party, and repair should be forever out there once required.

4.1.7 Adoption:-

Some articles during this class target general businesses by providing ROI (Return on Investment) models for giant companies, industries, massive corporations that square measure performing on these specific businesses. This focuses a lot of on SMBs (Small Sized Business) and appears into inhibitors and enablers for cloud computing, additionally because of the edges of competitive benefits.

4.1.8 Cost and Pricing:-

This term examines the economy to get pleasure from a cloud-user perspective. in cloud computing they're turning the varied platforms from one supply to a different, will increase the info transfering, and also the most inflated their maintenance and management once a year. On the opposite hand valuation ways of cloud suppliers, maybe a common approach for finding out this subject to match totally different valuation ways and analyze the execs and cons in terms of acceptance of shoppers.

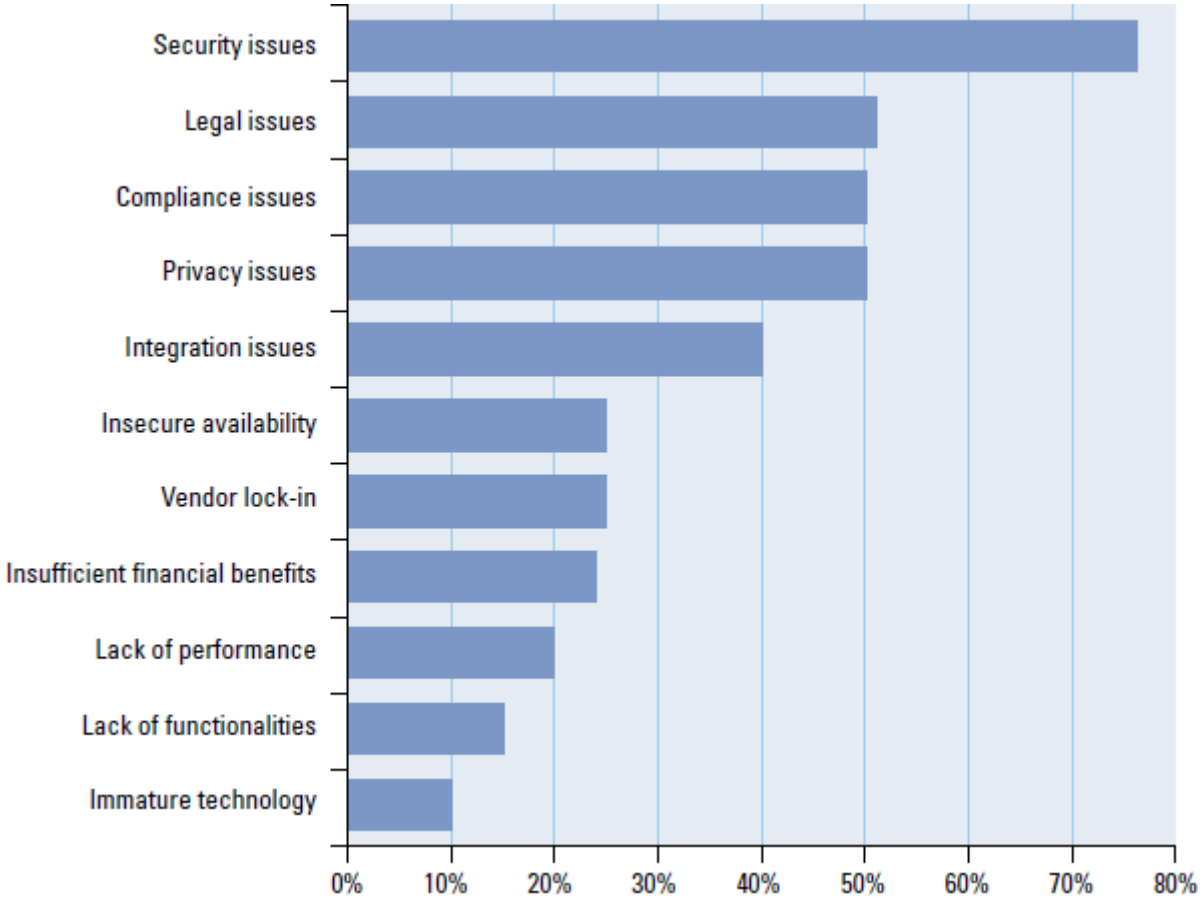

Figure 4.1 :- right scale on cloud computing issues

Chapter 5
FUTURE APPROACH

As we know business can connect everything digitally. We know it, so, prior to cloud computing would store all of their information and server rooms server farms there’s you know adage joke that you know down in the basement there’s a server room where it professional is just sitting with the data. Also, it allows businesses to focus on the one thing that matters: profit.

Here the business benefits of moving towards cloud computing is that the potential to cut operational and technology costs, get up and running quickly and easily, give people the tools to be productive.

It can also become as a trade like, it’s security concerns: the market continues to grow up, as we see that by 2020 62% of all CRM software's(customer relationship management software) it is a tool that designed your organization and offers to customers a unique and seamless experience, as well as build better relationships by providing a complete picture of all customer interactions, keeping track of your sales, organizing and prioritizing. And cloud computing is user friendly & both old and new organizations can easily implement. ultimately cloud computing is user-friendly, cost-effective and will allow companies to continue to innovate in the future.

Chapter 6

CONCLUSION

They allows to offer services of computation though internet, to all the world and very easy. Nowadays people workusing the internet to access our data through the internet or at list over the web , and also it is a service used mainly by companies.

Tasks for the cloud computing is that we can access and storage information across the world. we can also send e-mails, edit documents , watch movies or tv shows, listen to music, store pictures, and another files. Backs up data, disaster recovery and business continuity easier and less costly.

It is ued in the processs of processing and mass storage of data on servers. This means that there are services, some payments and other nonpayments, that saved both your files and your information on the internet.

Cloud computing have some assets and liabilitiesof it that:

ASSETS:-

1. cost :- cloud computing eliminates the charge of procure hardware and software and the creation of data centers.
2. speed :- provided self service so large amounts of computing resources can be provisioned in few minutes, removing the pressure of capacity planning.
3. Performance :- The largest cloud computing services run to a network of secure data centers, which are periodically updated.

LIABILITIES:-

1. One negative aspect with the cloud is the compatibility with the it.
2. other is the present lack of standardization in the system.
3. And the last one is the compliance, since storage sometimes extends across several countries.

Chapter 7

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