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Keyword Specific Cloud Computing

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Abstract— *It is now a known fact that Internet of things (Iot) and Cloud computing will be the way ahead. Store and transmit of massive amounts of data is on the cards in the coming years which will profoundly affect other areas of everyday life in the next generation. Cloud and Iot are merged together is seen as an enabler of a large number of application scenarios. As an example at the start of 2016 automakers are building a driverless taxi service. Keeping this in mind a novel idea of keyword based Cloud Computing is brought about in this paper which gives out entire data to the user if the user types the keyword of the required entity.*

Keywords— Cloud, Cloud Computing, Cloud Architecture, Cloud Services, Computer Network.

I. INTRODUCTION

It has proved beyond imagination that our body resembles entire cloud of nervous system and if this system gives out a signal (keyword) to walk, the body starts walking. The eye is seen as cloud of scenarios and if any name (keyword) is brought to its notice, an entire object is placed as a virtual image in front of it. This keyword based facility is available in smart phones and GSM phones wherein a key is attached to a specific Stored (cloud) messages. It is possible to build a similar type of system by using Internet of things (IoT) and Cloud Computing which is the idea of this paper but, before that it is must to detail the concepts of cloud computing.

II. REVIEW OF CLOUD COMPUTING

The other name of cloud computing is Internet computing, using which users can access shared resources and common infrastructure, offering services on demand over the network to perform operations. Cloud is very dynamic, scalable and independent platform in terms of computing. Cloud has centralized server administration system which administers the system, balances client supply, adjusts demands, monitors traffic and avoids congestion. This server follows middleware protocols which controls the communication between cloud networks. High scalability, Agility, High availability, Multi sharing, Pay per use services and all service oriented support are some of the characteristics of the cloud.

A) ARCHITECTURE

Architecturally Cloud computing system consists of Front end and Back end in which front end comprises of end users whereas back end comprises of servers. Architecturally cloud models are commonly divided into *Software as a Service* (SaaS), *Platform as a Service (*PaaS), and *Infrastructure as a Service (*IaaS). It's helpful to add more structure to the service model stacks: Fig. 1 shows cloud reference architecture.

Fig.1: Cloud Architecture

Software as a Service (SaaS)

SaaS only hosts completed cloud applications .Cloud consumers release their applications in a hosting environment, which can be accessed through networks from various by application users. Cloud consumers do not have control over the cloud infrastructure that often employs multi-tenancy system architecture.

Platform as a Service (PaaS)

PaaS is a development platform which supports software life cycles. PaaS, must have supporting application hosting environment, development infrastructure, programming environment, tools, configuration management, etc.

Infrastructure as a Service (IaaS)

Cloud consumers directly use IT infrastructures provided in the IaaS cloud. IaaS cloud uses virtualization in order to integrate and decompose physical resources Virtualization sets up independent virtual machines (VM) that are isolated from both the underlying hardware and other VMs.

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B) CLOUD PLATFORMS

Following are some of the cloud platforms which are in existence.

AbiCloud

Abicloud used to build, integrate and manage public as well as private cloud in the homogeneous environments platform. This is much helpful for the transformation of the working environment and will make the cloud deployment process much easier and flexible.

Eucalyptus

Eucalyptus (Elastic Utility Computing Architecture for Linking Your Programs to Useful Systems) uses to build open-source private cloud platform. It is an open-source infrastructure using clusters or workstations. Eucalyptus is compatible with EC2 from Amazon, and may support more other kinds of clients with minimum modification and extension.

Nimbus

Nimbus is an open tool set and it permits users lease remote resources and build the required computing environment through the deployment of virtual machines.

OpenNebula

OpenNebula is also an open source cloud service framework. It allows user deploy and manage virtual machines on physical resources and it can set user's data centers or clusters to flexible virtual infrastructure that can automatically adapt to the change of the service load. Through the interior interfaces and OpenNebula data center environment, users can easily deploy any types of clouds.

C) CLOUD DEPLOYMENT MODELS

There are four types of cloud computing deployment models

Private cloud: The cloud is managed by an organization and serves it solely; it can exist inside or outside the organization's perimeter

Community cloud: The cloud is managed by several organizations and supports a specific community that has the same interest.

Public cloud: The cloud infrastructure is owned and managed by a large Cloud Service Provider

Hybrid cloud: The cloud infrastructure is composed of two or more of the above models (e.g. Private and public, private and community)

These were the few technological advances that led to the emergence of Cloud Computing and enabled a lot of service providers to provide the customers a hassle free world of virtualization fulfilling all their demands. The prominent ones are: Amazon-EC2 (Elastic Compute Cloud), S3 (Simple Storage Service), SQS (Simple Queue Service), CF (Cloud Front), Simple DB, Google, Microsoft Windows-Azure, Proof Point, Right Scale, Salesforce.com, Workday, Sun Microsystems etc. and each of them are categorized either as one of the three main classifications based on the cloud structure they provide: private, public and hybrid cloud. Each of the above mentioned cloud structure has its own limitations and benefits.

D) ISSUES

More and more information on individuals and companies is placed in the cloud because of which following cloud issues emerged.

Privacy: Cloud computing utilizes the virtual computing technology, users' personal data may be scattered in various virtual data centers rather than stay in the same physical location, users may leak hidden information when they are accessed cloud computing services. Attackers can analyze the critical task depend on the computing task submitted by the users.

Reliability: The cloud servers also experience downtimes and slowdowns.

Legal Issues: Worries crop up with safety measures and confidentiality of individual all the way through. Legislative levels.

Compliance*:* Numerous regulations pertain to the storage and use of data requires regular reporting and audit trails. Data centers maintained by cloud providers subjected to compliance requirements.

Freedom: Cloud computing does not allow users to physically possess the storage of the data, leaving the data storage and control in the hands of cloud providers.

Long- Term Viability*:* one should be sure that the data one puts in to the cloud will never become invalid even your cloud computing provider go broke or get acquired by a larger company.

Intermediary Layer: A number of recent works address the interoperability issue by providing an intermediary layer between the cloud consumers and the cloud-specific resources.

Open Standard*:* Standardization appears to be a good solution to address the interoperability issues.

Open API*:* it is an open cloud platform which defines a set of clear and easy-to-understand Web services interfaces, through which cloud consumers are able to create and manage cloud resources, including compute, storage, and networking components in a unified way.

Apart from this Cloud Security Alliance (CSA) listed Data breaches, Compromised credentials and broken authentication, Hacked interfaces and APIs, Exploited system vulnerabilities, Account hijacking, Malicious insiders, The APT parasite, Permanent data loss, Inadequate diligence, Cloud service abuses, DoS attacks, Shared

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technology, shared dangers as 12 emerging treats and its solutions the world may face in the coming years.

III. PROPOSED IDEA

In recent years cloud has evolved in two broad perspectives – to rent the infrastructure in cloud, or to rent any specific service in the cloud. Where the former one deals with the hardware and software usage on the cloud, the later one is confined only with the 'soft' products or services from the cloud service and infrastructure providers. With this perspective an idea has been brought forward in this paper wherein keyword based cloud service has been proposed as an future scope of work The question is how to get data pertaining to a keyword. The idea proposed is Internet of things, Virtualization, Web Services, and Very Small Aperture Terminal (VSAT) systems can be integrated to get a total build up of an entity like Dams, Malls, and Bridges etc. so that other organizations can emulate them and thereby can save themselves from time complexity, man power complexity, investment complexity, area complexity and so on. The implementation of this idea is in process and can be a point of research to others in the years to come.

IV. CONCLUSION

Cloud computing is seen as a trend in the present day scenario with almost all the organizations trying to make an entry into it. It is a way of delivering IT- enabled services in the form of software, infrastructure and more. Cloud Computing is the implementation of engineering principals to obtain high quality applications through Internet. Main goal of the cloud computing is to provide scalable and inexpensive on-demand computing infrastructures with good quality of service levels. The advantage of cloud computing are the reduction of IT costs and increased flexibility, scalability and the possibility to pay only for the used resources. The users range from individual to large government or commercial organizations, and each one has their own concerns and benefit. The paper presents the basic projected idea wherein cloud supposed to give out details about an entity if that particular entity's related keyword is given to the system.

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