Current Era in Famous Terminologies – Big Data V/S Cloud Computing

Mrs. Ramandeep Kaur
Principal, Holy Heart Public Senior Secondary School,
Madevi, Tehsil –Malerkotla, Sangrur, Punjab (INDIA)

Abstract: This paper is totally based on the different sectors for data science concept and new ternimilogies of data such as cloud computing and big data . The answer of, this question "how these technologies are useful to everyone and what faclitiites will provided to users?" is also giving in the paper with specifications*,* of big data and cloud computing. It is continues innovation in disk storage capacity, increase the accuracy, processing speed continually up. Big data includes with various factors as in five V's volume, velocity, variety, value,veracity important benefits for user as well as also make fruitful applications and new trends in current era just as health, public and government sectors, learning field, insurance sertvices also useful areas etc. Moreover, cloud computing services are advantageous for users just as IAAS, PAAS, SAAS. Cloud has many types are expalined in this paper as well as showing very strong concept for top famous production companies in world for example Amazon, Google, GoGrid, Microsoft, Netsuit, Salesfource and so on. Big data and cloud computing, both are two sides of one coin so they have many similarities as well as differences. Due kind of data science future era will also accept more strong stoage capacity as well as availabilty for data and more integrated for data.

Keywords: *big data, cloud computing, teradata, storage space, volume, value, internet of things(IOT).*

I. BIG DATA

The cloud is useful in easy way to store and process the whole data from big data. Big data means to data warehouse due to integrated security reasons.

Big data is huge amount of data sets that may be analysis to reveal design pattern, trends and association specialty for human nature and behavior. Big data term occur for virtual space for extremely storage space and sharing online data. Data set is a growing faster for internet of things (IOT) devices such as mobile devices, remote sensors, cameras, microphones, wireless sensor networks etc. this data concept came with high - volume, velocity, variety, value and veracity information assets that demands with cost effective innovation, decisions making and process automation. This five-V has been expanded with many more characteristics of huge data capacity.

The following characteristics are in brief:

- Volume- it is used with purpose of just observes the data and tracks what happened in data.
- Velocity- this feature is related to real time for data accessing.
- Variety- Variety means pattern of data such as text, images, audio, and video. Even it completes missing pieces of data fusion.
- Veracity- it include the security, authority, accountability.
- Value – this feature is related to the correlations, events and hypothesis based.
- Machine learning- this feature detects different pattern in machine language.
- Digital footprint- big data is often cost free by the product of digitalization.
- Business intelligence- this benefit is used to statistics data with huge volume information density to measure things (data).

II. ARCHETURE OF BIG DATA

Big data is used with terabytes with extremely storage space online. Presently teradata relational databases installed with exceeds 50PB(Petabyte). Teradata added in some unstructured data types included XML, JSON and AVRO.

- Petabyte = a unit of information equal to 10^{15} or 2^{50} bytes
- 10^{15} or 2^{50} bytes=1,000 Terabytes(TB)
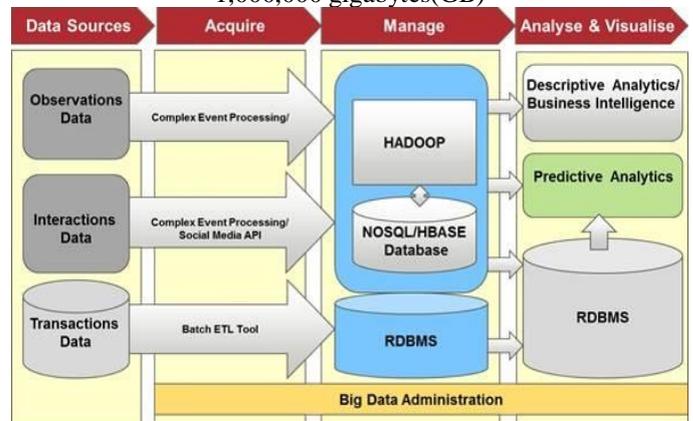
or

1,000,000 gigabytes(GB)

Fig. 1: (Archeture of Big Data)

III. BIG DATA COMPANY PRODUCTS

Different companies has their own flavors, patterns and shapes for data So, which tools and platforms should you choose? Here many companies are considering in top companies for the Big Data world.

- Alpine data lab
- Axbria
- Azure data lake
- Big data partnership
- Big data scoring
- Big panda
- Bright computing
- CBIG consultations
- Cloudera
- Compuverde
- Cltrshift
- Databricks
- Data stax
- Green plum
- GridGo systems
- Hack/reduce
- HPCC system
- Platfora
- Sumo logic
- Teradata
- New relic

And so on….

IV. BIG DATA IN REAL LIFE

Big data is extremely used in many fields. These fields are given below:

- Health department:- Big data is very heplful for this department. It is a helping hand for a particular doctor or physician, when patitent gets treated and with all history can be accessed by only one link. Today , doctor can precribe the medicine without even visiting the patient by knowing heartbeat and temprature monitoring watch fitted on the patient's arm that stays in remote area.
- Public sectors:- data can access from one corner to other corner by public sector units. Big data aslo helpful for government sectors like power investigation, economic promotions and so on.
- Learning:- presently every child learns from online data. this is also possible with bigdata. There are many instances such as education industry. Education industry includes PPT's

of every topic. Online data is available fir any subject and any other topic.

- Insurance services:- Today people know online insurance services are available from many companies. If we want to buy insurance for health or vehicles, renew insurance, need claim, we don't need to go door to door. We should apply online because it is best technology tool. Also can access all information any time.
- Industrial and natural resources:- natural resources are in high demand on the earth due to challenging needs. Industry and natural resources both are demanding high volume as well as high velocity for big data.
- Transportation:- it is also real time instance of big data, means very useful in traffic management, direction preparation, intellectual transport, overcrowding administration.
- Banking :- banking sector play a great role for mischief tasks. It detect the misuse of credit cards, misuse of debit cards, venture credit hazarab treatment, business, customer , statistics etc.

So many fields are also used in real life but not more describes in one research work.

V. CLOUD COMPUTING

Cloud computing is a computing with cloud terminology based on resource's consumptions and utilities. It is based on remote services to access the data without physical drive. It is also called remote networking with virtual space those services centralized data storage and online access.

Cloud computing is mainly used with virtual technology. The virtual technology is separated from physical devices into one or more virtual devices. Main benefit of virtualization is providing speed up of data, and reduces the cost by increasing infrastructure utilization.
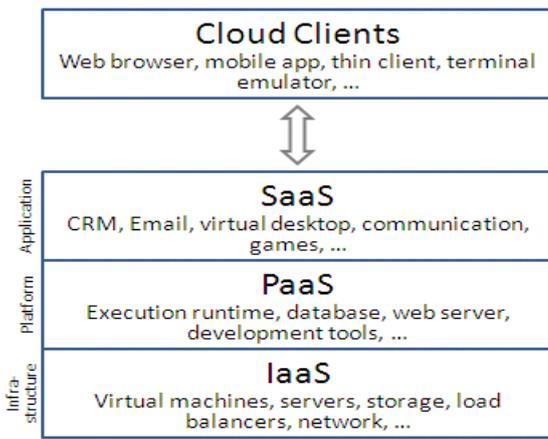
It accesses the quality of services (QoS). It is also provide the tolls and technologies to make up data with expectable prices.

VI. UTILITYS OF CLOUD COMPUTING

There are three types of services in cloud computing.
1. SaaS
2. PaaS
3. IaaS

The structure of cloud computing is given with all services.

A. SaaS (software as a services)

Software as services is a basic term of cloud technology. SaaS provides virtual desktop, email, CRM services, which can offer the powerful tools for web browser. SaaS has very good example of Google Docs. It is suitable for all types of documents on Google. It allows to usage of cloud applications. Anyone can create a Google account free of cost. In Apple Company devices uses icloud. That has a tool.

B. PaaS (Platform as a services)

It is a service for using on web server platform in cloud computing. PaaS is concerned with reduce the cost in IT companies as well as increase the application development work in efficient manner and reliable for development methods. It is also based on databases.

C. IaaS (Infrastructure as a services)

These services are mainly useful for full time developers or large scale consumers, and used for creating and developing as well as storing the applications in cloud computing environment with suitable infrastructure. The main advantage of infrastructure as a services s virtually unlimited storage capacity without any physical hardware on site.

VII. CLOUD COMPUTING TYPES

The cloud computing technology has a large pool of resources and services which are used to connect with large network by end users for online data connection. There are four types of cloud computing. These are given below:

a) Private cloud computing technology
b) public cloud computing technology
c) hybrid cloud computing technology
d) community cloud computing technology
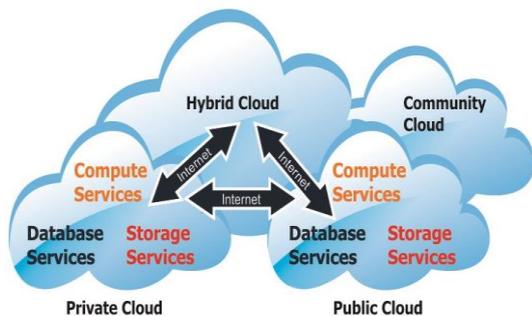
A. Private Cloud Computing Technology

This type of cloud computing technology allows to business host applications and it all are concerned with data protection and security as well as to control the data on remote accessing. It is not share the data to other organization and it is always concerned with internal and external databases. Private cloud is more efficient and secure but expensive rather than public cloud computing.

B. Public Cloud Computing Technology

This type of cloud computing technology mainly used to creates apps for public services. It is mainly concerned web applications such as Amazon, Google, and Microsoft and to access other internet. All customers of public cloud technology shares all documents from a pool with limited configurations, security and resources availability.

C. Hybrid Cloud Computing Technology

Hybrid cloud computing technology is a combination of two technologies: public and private cloud computing technologies services. This cloud is mostly used with online resources and offsite server bases infrastructure. It has multiple choices of security. It is also increase the efficiency and flexibility of cloud computing.

D. Community Cloud Computing Technology

The community cloud computing technology network is mostly allow sharing several organizations and also managed and secured by all participating organizations. Community is mostly useful in some situations such as government companies need share data as well as private group like hospitals or clinics.

VIII. CLOUD COMPUTING PRODUCTION

There are so many companies for provide cloud computing product for customers. The famous companies are given below:-

• Amazon; - this company located in Seattle. It is based on web server for huge storage space including elastic compute cloud for computing capacity to use storage services on demand of storage capacity.

• AT &T: - it is based on application hosting services. This company located in Dallas. Company provides virtual servers, integrated securities and network function for clients.

• Enomaly: - this organization provides software that is strong in security for centralization data with cloud computing with IT pros to manage internal and external resources from single console. The head office of this company is in Toronto (Canada).

• Google: - the main office is placed in Mountain view, Calif. This app is used for online office tools like as email, word processing etc. this platform is also available for developers to build own apps and host them on Google infrastructure.

• GoGrid:- this means a derision on serve Path. This company office is located in San Francisco. This software is used for web applications and web based storage as well as ability to quick deploy windows and LINUX based virtual servers.

- Microsoft: - this company is located in Redmond, wash. It consist operating system and developer services that can be used to make web host applications.
- NetSuite :- the head office of NetSuite sited in San Mateo, Calif. It provides business software that includes e-commerce, CRM, accounting and ERP tools to successful business.
- RackSpace: - this company situated at San Antonio. This software is also called MOSSO, that is gratefully used with cloud sites, websites, cloud files and storage services for virtual servers.
- Right Scale: - product of this company used as services that helps to manage the IT processes for clients due to automatic storage backup and error reporting. For example Amazon.
- SalesForce.com- moreover, this is a CRM tools services via websites(online) that include sales force automation, marketing , analytics and social network tools. The company placed in San Francisco.

IX. BIG DATA V/S CLOUD COMPUTING DIFFERENCES

Hence, some different are showing in below in between cloud computing and big data, but both are child of same mother. these differences are:-
- Big data is a data storage with big space, but cloud computing is a model of computing on fly.
- Big data represent contents, other one means cloud computing showing infrastructure.
- Big data is generated for technology growth with many other resources and cloud computing produced due to IT resources.
- Big data use the pattern of data such as text, video, images, web pages, social media and so on.

But cloud computing used with design for platform, software, database and storage.

X. RELATIONSHIP BETWEEN CLOUD COMPUTING AND BIG DATA

According to search, can't have one without other (means cloud computing and big data). So there are many similarities between each other. These are showing below:-
- Anywhere Access:- if data sources are extend around the world, then we can access by faster cloud data.
- Elasticity:- if we need more space for stored data then we can use cloud platform to expand the storage space. If we don't need more space then we can shrink the space as well.
- Scalability:- this means allow to access the storage data on any device such as mobile, pc and more.
- Data science:- both technologies are the part of data science with storage capacity as well as part of distributed cloud computing.
- Data collections:- big data is collecting with a kind of data and cloud computing is what user want out from these assembled data.

XI. TIME TO COME

Data management expected across global industries from medium pattern. Big data platform will be more centralized and share the whole data.
- Big data will data growth concept the analysis data expected to grow and improve with many new tools.
- It will make better more action in extreme data.
- Big data will build a link between data and computing.
- In the business area big data will blossoming with drive value as well as revenue from particular data
- The main focus of big data for security and privacy fact. The new privacy regulations will get well.
- Data will get fast data and actionable data will exchange big data.

In the cloud computing also will have many rooting in coming days instance of;
- Cloud computing will be turn to get better then previous with marketing area of cloud services publicly.
- It will become cost effected as well as beneficial for security reasons.
- It will play good role in data recovery by remote access.
- Cloud computing in future era will more robust and accurate by monitoring technology.
- Due to mobile technology mobile commerce will use more and will faster interconnected.

XII. CONCLUSION

According to all research, big data and cloud computing are biggest trend of the world today. Current technology data science is used in many ways like drop box, cloud, big data drives and so on. These technologies have good power we don't need to store data in physical storage space. Both terminologies are used on virtual memory. Current it is a fashion as well as need for extreme memory for storages. The example of these technologies icloud, goggle drive, and e-commerce based websites.

With this concept, the future of this data will increase more in business and all other fields without physical storage space and all kind of field will use virtual memory with

centralization data. Also new tools will generate to more suitable for every user and easy to use for every system. So, latest technologies are developed day by day and it will make more suitable for data sets.

XIII. REFERENCES

[1]. http://www.tutorialspoint.com/big_data_tutorials.htm
[2]. https://www.technologyreview.com/s/538916/big-data-and-the-future-of-business/
[3]. http://bigdata.teradata.com/US/Big-Ideas/The-Future-of-Big-Data/
[4]. http://www.datamation.com/big-data/big-data-companies.html
[5]. http://www.bigdatacompanies.com/
[6]. https://www.cognizant.com/cloud
[7]. www.en.webopedia.com
[8]. www.betterbusiness.in/cloudcomputing
[9]. www.opengroup.org
[10]. www.rackspace.com
[11]. www.hcltechnologies.com/cloud computing\Cloud computing Architecture Services for Enterprises _ HCL Technologies.htm
[12]. Douglas K Barry with David Dick, "Cloud Computing Definition", Published by Barry & Associates, Inc. Copyright © 2000- 2015
[13]. www.itbusinessedge.in
[14]. Gil Allouche, "Top 5 latest trends in cloud computing" article published on 20th September 2013.
[15]. Satyendra Kumar Pasalapudi, IT organizations are increasingly looking to cloud computing as the best structure to support their big data projects". Apps Associates and an Oracle ACE. Published in January 2014.
[16]. Josh Ames, "Types of Cloud Computing: Private, Public and Hybrid Clouds", http://blog.appcore.com/
[17]. Eric Knorr," 9 trends for 2014 and beyond" InfoWorld, Inc., November 2013.
[18]. http://mjskok.com/resources/cloud-computing
[19]. boyd, dana; Crawford, Kate, "Six Provocations for Big Data". Social Science Research Network: A Decade in Internet Time: Symposium on the Dynamics of the Internet and Society, Published in September 21, 2011.
[20]. Couldry, Nick; Turow, Joseph (2014). "Advertising, Big Data, and the Clearance of the Public Realm: Marketers' New Approaches to the Content Subsidy". International Journal of Communication. 8: 1710–1726.
[21]. Lee, Jay; Lapira, Edzel; Bagheri, Behrad; Kao, Hung-an. environment". Manufacturing Letters. 1 (1): 38–41.