

A NOVEL APPROACH FOR SECURELY PROCESSING INFORMATION ON DEW SITES IN CLOUD COMPUTING ENVIRONMENT

¹Bhavya Modi, ²Krunal Suthar, ³Jayesh Mevada

¹M. Tech Student, ^{2,3}Assistant Professor,

¹Department of Computer Engineering, MEC, Basna. India.

²Department of Computer Engineering, SPCE, Visnagar. India

³Department of Computer Engineering, MEC, Basna. India.

Abstract—a computer user now a day required a freedom from managing data locally and wants that the data must become available anytime and anywhere. Here the term Cloud comes into existence which provides various services to its user without taking a burden as well as with cheaper cost. This gives lots of benefits to user but oppositely it's also suffer from some of burning issues like confidentiality, availability, continuous Network connection requirement, integrity and many more. The user data available on Cloud system and to process that data securely a provider need to process this data without displaying identity of the user. Secondly the user must be able to work with open environment even the network connection is not available. First issue is solved using the anonymization techniques and for second issue we used an important new term that's Dew computing. The Dew computing together with Cloud makes Cloud-Dew architecture which combinely work to solve above mentioned issues. So our aim is to proposed a scheme which solved current issues of Cloud-Dew Computing architecture that may be a one of the important open platform computing trends in the future

Keywords —Cloud Computing, Dew-computing, cloud-dew architecture,

I. INTRODUCTION

Cloud Computing and Dew computing are the two emerging trends of today in the world of information technology and computing environment. "Cloud computing refers to the web-based computing, providing users or devices with shared pool of resources, information or software on demand and pay per-use basis". It allows end users and small companies to make use of various computational and distributed resources like storage, software and processing capabilities provided by other companies such as Amazon or Microsoft. Cloud Services provided by the clouds are broadly divided into three categories: Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS).

Infrastructure as a service (IaaS): In the IaaS model computers are offered as physical or as virtual machines, and other resources.

Platform as a service (PaaS): In the PaaS model, cloud providers offers computing platform including operating system, programming language execution environment, database, and webserver. Without buying and managing hardware and software on a cloud platform.

Software as a service (SaaS): In the SaaS model, cloud providers install and operate application software in the cloud and cloud users access the software from cloud clients.

"**Dew computing** is the process of extracting useful patterns or knowledge from large databases". Data mining tasks include Classification (Data mining tasks include Classification, Association Rules, Clustering,), Association Rule (It helps to find out the interesting relationship between the products), Clustering (is the technique of grouping of several objects into groups of similar attributes in order to simplify large, complex sets) etc...

II. RELATED WORKS

Author at [1] proposed a model where they focus a new design of cloud-dew architecture. The current scenario of hosting only one dew server on a user's pc as adopted in the current dew site. Our design multiple dew server are hosting, in one for each installed domain. Our architecture are providing significantly increased freedom in dew site development and increase the existing cloud-dew architecture. This paper National Institute of Standards and Technology department of commerce describe in cloud computing "a model of enabling convenient on demand network access to shared pool of computer resources and provided that minimal management or service provide the noticed the current scenario of cloud architecture that has to disadvantage does not permission of much freedom in dew computing development and it does not take advantage of idle cpu. That is issue solve it new version of cloud-dew architecture on the give domain ultimate development freedom and utilized unused cpu cycles automate process of managing dew site.

In this paper [2] Author says that dew computing has great potentials in application. In this paper new definition in dew computing is an on-premises computer software-hardware organization paradigm in cloud computing environment where on-permission computer provided the functionality independent of cloud service and collaborative with cloud service. In this paper main aim is the dew computing potential and cloud services. The benefits of dew computing are that local computer provides rich functionality that are independent of cloud service and cloud computers collaborate with cloud service. User's premises and far from user's center the if an internet connection is lost the user will not be able to access the user's own data. The cloud-dew architecture solution of their problem make installed website always available to user and synchronization with cloud server.

Author proposed for the same [2] but in this paper author focuses that's discuss its potentials and challenge dew computing brings on premises computer application to level that they constantly get support from cloud service. Dew computing is the future direction of on-

premises computer application .dew computing is tightly related to cloude computing and it is the complementary piece of cloud computing in paper author says that aim of the dew computing is to fully realized the potentials of on-premises computers and cloud services. dew computing mainly two key features independence and collaboration. independence means the on premises computer is able to provide functionally without cloud services and internet connection. collaboration means the dew computing application has to automatically exchange information with cloud services during its operation.

This Paper Author [4] newly purposed cloud-dew architecture realize that potential of distributed database system in unreliable network environment, and provides the possibility of web-surfing without an internet connection. this paper analyze the cloud-dew architecture from the distributed database system viewpoint and further explore potential of the database system. The organization cloud-dew architecture can be considered as single-super-peer p2p network.vin cloud-dew architecture, non transparent solution are more suitable because user need to be aware of the communication failure and to expect a realistic replacement. A distributed database system is a generic (versatile) different structure; the proper use of its features may bring great inspiration to the computing world.

author [5] focuses in the how the technologies associated with the evolution of cloud computing to dew computing can contribute to the advancing scientific computational productivity through automation. This paper addresses the automatic data analysis enabled by cloud-dew architecture in the context of life-science sector; of the life-science sector. cloud-dew architecture fundamental computing architecture that concern the distributed of workloads between cloud services and on-premise computer. the automatic analysis system it based on six element (a) automation mode (b) start process (c) input data (d) workflow construction (e) algorithms used and (f) algorithms selection.

III. COMPARISON OF VARIOUS RESEARCH SCHEMES

The table below shows a short comparison about the various schemes proposed by a researcher by taking different parameters. The table gives the description about the basic technique used with the benefits that researcher gets the limitations found in schemes.

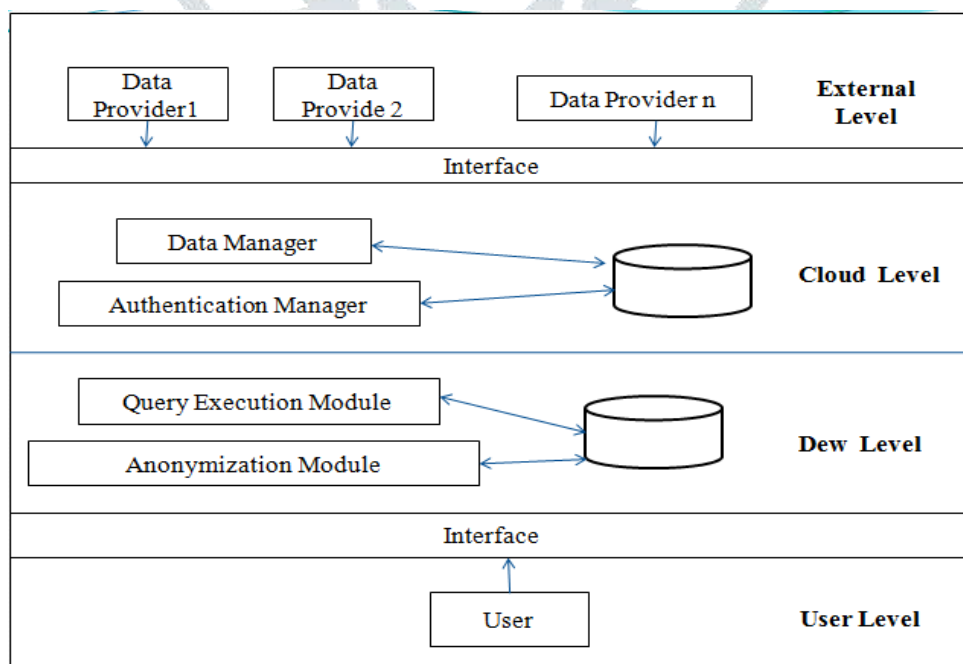
	Collaboration	Cloud-dew arch	evaporation	Fix Length	Data base man	Real time
[1]	√	√	√	√	√	√
[2]	√	√	X	X	X	√
[3]	√	√	X	X	√	X
[4]	X	√	√	X	X	X
[5]	X	X	X	√	X	X
[6]	X	√	X	X	X	X

Table 1. Comparison study

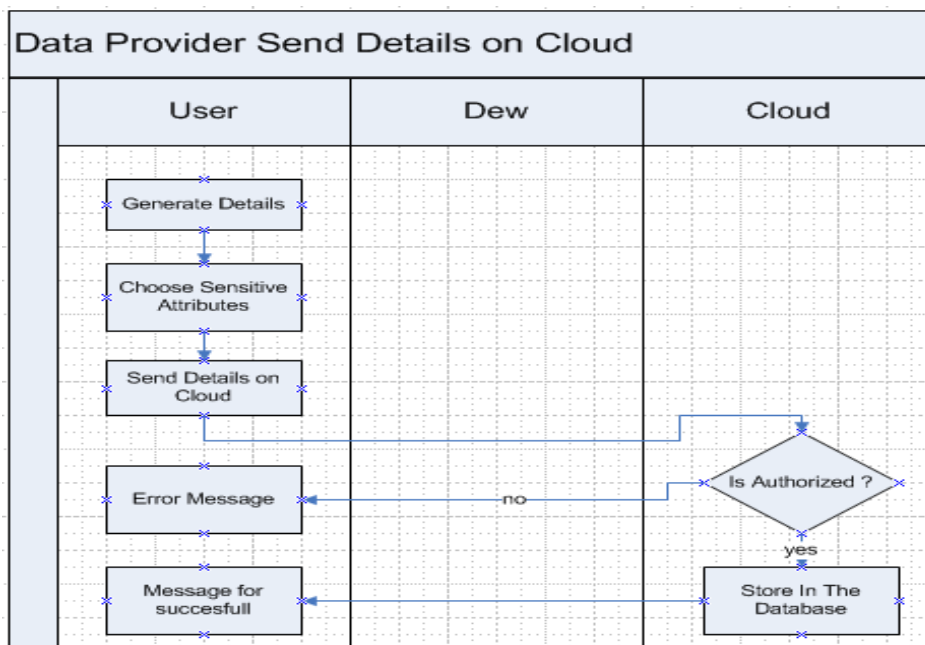
IV. Proposed Methodology

- Proposed method of cloud-dew architecture user authorized then data will be store on Cloud database
- Proposed method has focused on providing a solution for transferring and sharing important data with security and authorized access.
- Proposed method when user wants to perform more queries on the same database it send download query to Cloud server.
- Proposed method provide Result produced give input to anonymization module. Based on the sensitive attribute provided the result checked for anonymity If result found suitable then display to the user Otherwise the proper message displayed to the us

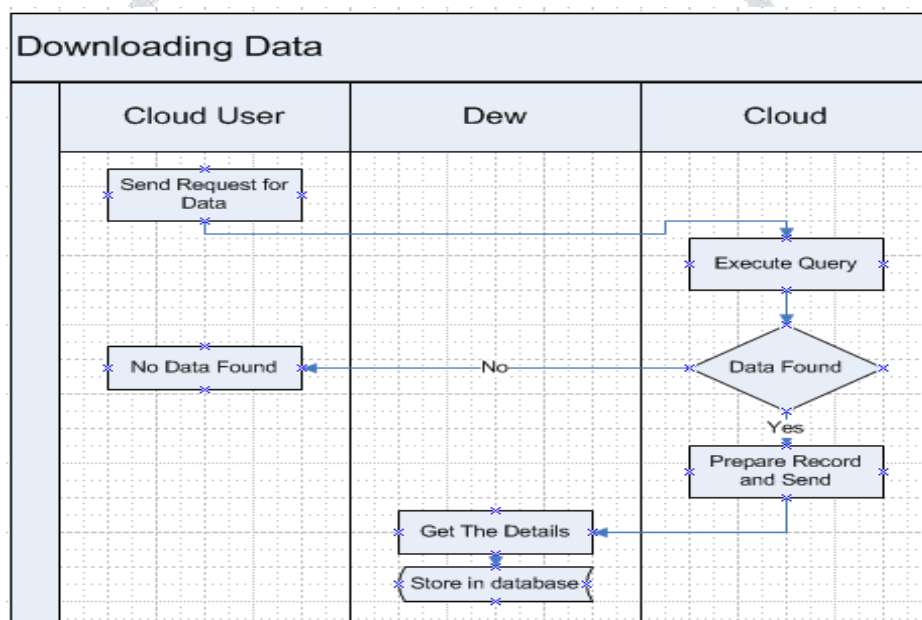
Basic Framework



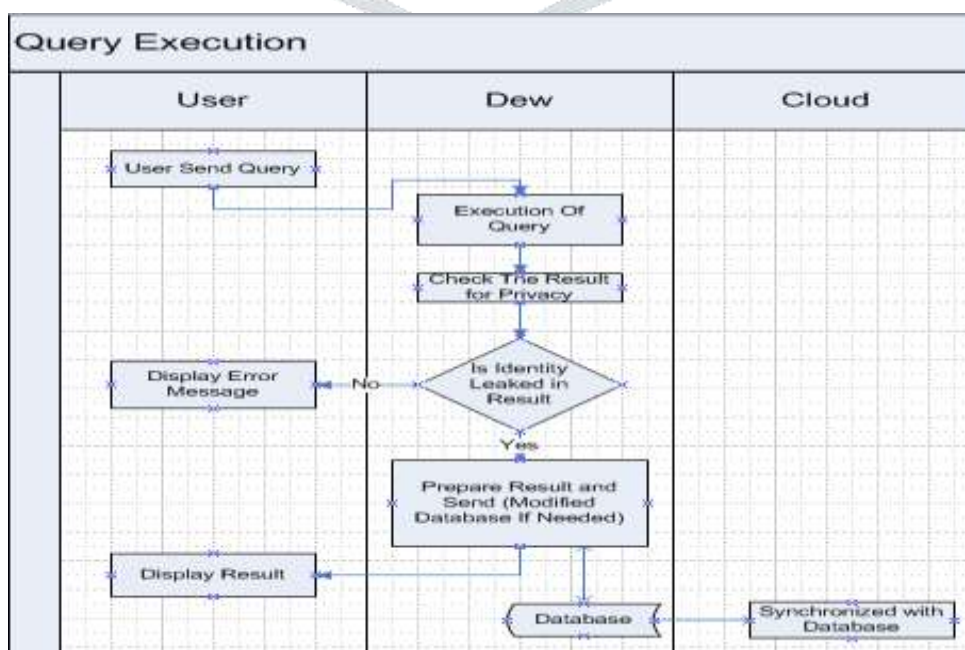
Flow 1 : Uploading Data on Cloud



Flow 2: Downloading Data from Cloud



Flow 3: Execution of user Query



Algorithm 1: (Uploading)

- Step 1: User Generate the details wants to upload
- Step 2: User set the sensitive attribute in the data
- Step 3: Upload the information on the Cloud server
- Step 4: If user authorized then data will be store on Cloud database
- Otherwise
- Send error message about authentication failure to user

Algorithm 2: (Downloading)

- Step 1: When user wants to perform more queries on the same database it send download query to Cloud server.
- Step 2: Query execute on the Cloud premises
- Step 3: If data found then Prepare data and send it to Dew Site
- Otherwise
- Error message about the data sent to Requester
- Step 4: Data stored on Local Dew Site.

Algorithm 3: (Analysis and Anonymization)

- Now the data available locally on Dew site (On local Machine of user)
- Step 1: Start
- Step 2: User enter the query to fetch required information
- Step 3: Execute query by the Query execution module available on Dew Site
- Step 4: Result produced give input to anonymization module.
- Based on the sensitive attribute provided the result checked for anonymity
- If result found suitable then display to the user
- Otherwise the proper message displayed to the user
- Modified the database if needed
- Step 5: Synchronized modified data with the data available on cloud (whenever required or when network available)

V. CONCLUSION

From all the above discussion we can conclude following points about proposed methodology.

- Provide the open environment even the network connection is not available user must be able to work
- Helpful when User need to execute many queries on same data which may available on Cloud
- No Need to send query every time, instead fetch the data from Cloud once on a Dew site and store it.
- A efficient mechanism to process the user query on dew site securely is provided.
- Ensure that user identity cannot leak when processing is done on data.
- System provides higher performance with low cost on Cloud-Dew environment

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