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An Optimized security service to cloud with high performance Architecture

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ABSTRACT: *The current one of the knowing technologies in computer science is the technology called Cloud Computing. When we looked at the architecture of cloud includes application, services, Core cloud and security services. The current system does not provide high security services include confidentiality, authentication integrity and authorization. The proposed system provides an optimized integrity service, a newly introduced authentication and confidentiality service. The proposed system also provides authentication services where one time password (OTP) has been generated in client machine.*
KETWORDS: *Security, Cloud, Integrity, Authentication, Confidentiality*

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I. INTRODUCTION

The cloud computing domain is well equipped to solve problems in Stock quote update and rocket launching other type security systems. The existing systems can't provide full security to cloud so that intruders are not allowed to enter into the system. Providing good performance and also provide a high security services is a challenging topic. The existing systems provide security services, but not optimized.

II. OPTIMIZED SECURITY ARCHITECTURE

The proposed architecture provide high security and good performance. The figure shows the block diagram of Optimized Security Architecture (OSA).

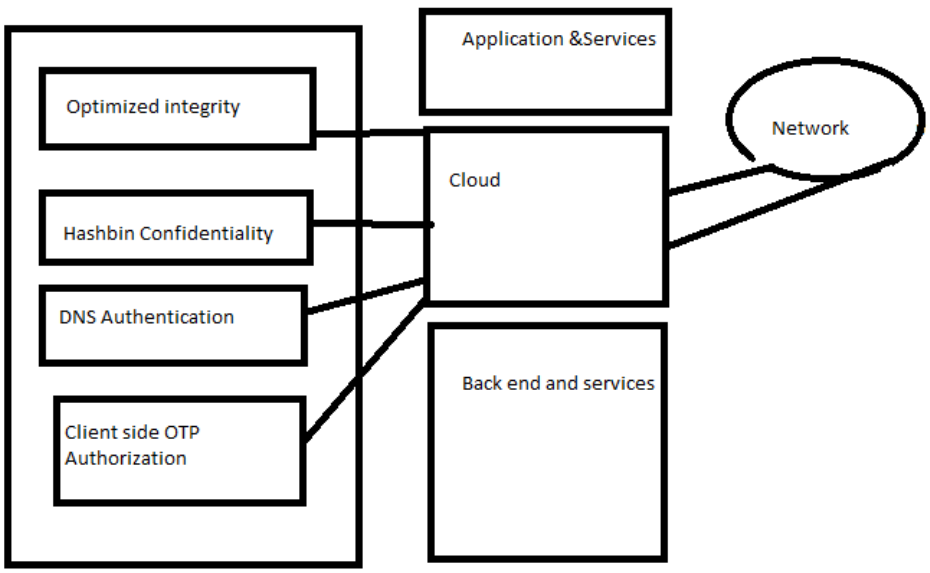


Fig 1:Architecture of Optimized Security architecture

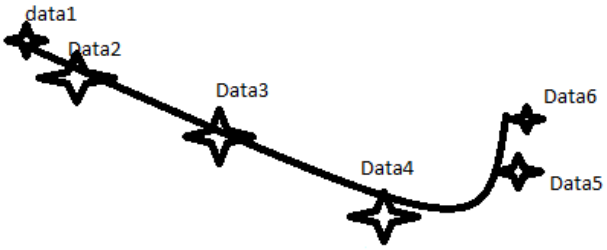
- **The architecture consists of optimized integrity ,hashbin confidentiality ,DNS Authetication,client side OTP for authorization,**
- **The remaining architecture is similar to other cloud architecture.**
- **It consist of application, then cloud and backend with services**
- **The performance network is used to tackle network issues**

III. OPTIMIZED INTEGRITY

- Integrity means correctness of data
- The line equation is used in In the optimized integrity.The line equation is given by

$$y=mx+c$$

The data are represented in a line and find the line equation initially. Find the slope of each points in the line is calculated and perform check sum of that slope



Line representation of data

Fig 2.Data represented in line

Example

- *10, 11, 12,13,14,15*
- *Find the hexadecimal of the above (1010, 1011, 1100, 1101, 1110 and 1111)*
- *Find the slope of that line representation*
- *Tan(theta)=heretical change/horizontal change (slope=45)*
- *Then perform the check sum of 45 (101101)*
- *Check sum is 0*

IV. AUTHENTICATION

- Authentication means the data comes from the genuine source.
- The proposed authentication mechanism takes the IP address of the sender and check out in Domain Name Server(DNS)
- Encrypt that name
- Then send the data to Cloud

V. CONFIDENTIALITY

The confidentiality means the kept the message as secret. No computer in between source and destination is not allowed to read or manipulate the message. The proposed confidentiality algorithm.Pronounsiation function is used to encrypt the message. All the information is getting from the predefined vocabulary source. There exist a vocabulary database to get the word which we going to text.

- Takes the odd letters in the message if total number of letters in the word is odd, otherwise even
- Takes the n/2+1 number of letters are taken and merged from a single word
- It randomly merged the letters

Example

- **The word is 'HELLO"**
- **Five letter word**
- **Takes HLO (odd positions)**
- **Then takes H**
- **Merge all words**
- **HLOH or HHLO**

VI. AUTHORISATION

Authorization means check whether the person have right to send data or to communicate with the cloud. The proposed system uses OTP (One Time Password) which is generated in client side instead of server side.

VII. APPLICATION

- The application which run in cloud is represented in application section of the OSA.All application related to the cloud is mapped and coded to connect with the client

VIII. CLOUD

- Cloud consists of set of computers with a network to run a set of application with high performance

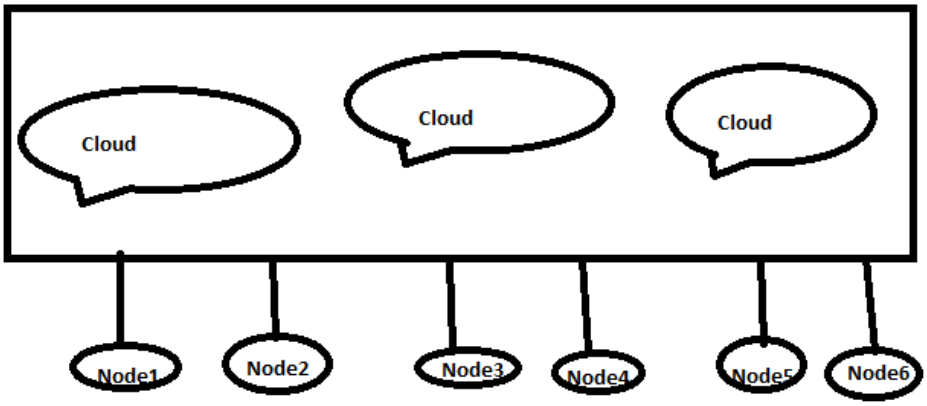


Fig 3.Cloud

IX.BACKEND AND SERVICES

- The database is connected with cloud to perform all the data related activities like
- **Insert data**
- **Manipulate data**
- **Delete data**
- **Display data**

X. CONCLUSION

The proposed OSA touches all the security services and high performance is given to the cloud.

REFERENCES

[1] Research and Architecture of cloud computing Jun Wu,Jing Yang,Xisi Tu,Guangling Y

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