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# Cyber Security And Cryptography In Cloud Computing

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**Abstract**: Data can be stored on the internet or on the cloud, so that the user (client) can access their data or application anywhere and anytime through the internet connected device. This is called as cloud computing .The main advantage of using the cloud is user can access it's data or services at a very low cost. with the increase in the popularity of cloud based services there is a high risk of Malicious attack on cloud storage and data can also be hacked so it is very important to protect our data from the hackers. So it is essential to protect clients data. One of the finest method to protect the data is cryptography. cryptography is a method in which data is converted into mini English form so the unauthorized user cannot access it. Later it will encrypted and decrypted using the keys. In this paper, we see how cybercrime is becoming a serious threat and steps to overcome it.

**Keywords:** Cloud computing, cyber security, cyber crime, encryption, decryption, security, cryptography

## I. INTRODUCTION

Cloud Computing gives a brand new manner to the user to store their data security at a very low cost. storing information within the cloud significantly reduces the storage burden of customers .the most important gain of cloud computing is a low cost, improve storage and feasibility.

Cloud Computing:-

We can classify cloud as :

1. Private
2. Public
3. Hybrid
4. Community cloud

1. Private Cloud :-

private cloud can be assessed by a single group or a single organisation.it is manage bio third party or organisation.

the private cloud is highly secure and flexible so it is often used by large organisation and government sector.

2. Public Cloud :-

A public cloud can be assessed by any user within internet connection and want to pay as per their uses.
Eg:- Amazon, window Azure service platform and sales force

3. Community cloud :-

community cloud will be assessed by two or more organisation that has similar cloud requirements.

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4. Hybrid Cloud :-

Hybrid cloud is the combination of two or more clouds (public, private, community).

Cyber security :-

Cyber security is basically a technic to protect the crucial information of the users. This include devices, networks, application, software , etc. The main objective of cyber security is to reduce the risk of attacks.

Cryptography :-

cryptography is the inverse the conversion of clear text into an unreadable form .cryptography is a technique requently used to transfer contents safely by ensuring that only authorised user can read it.

## II. RESEARCH METHODOLOGY AND PROBLEM FORMULATION

PROBLEM DEFINITION :

Now a days, cloud computing is used by most of the people.so security of cloud computing is major concern because of following reasons

1) managing large amount of data
2) confidentiality
3) attackers

## III. CONCLUSION

Cyber security is one of the most important topic in today's world. In order to protect ourself and our data we should have to look into this matter. From the above information, we can conclude that the techniques used in cryptography like RSA and DSA we can protect the users data from the unauthorized peoples. In this paper we have discussed the cloud, types of cloud, cyber security and cryptography methods.

## REFERENCES

[1] Bhaskar Parsad Rimal et al.,"A Taxonomy and Survey of Cloud Computing System",2009 fifth international joint conference on INC,IMS and IDC.

[2] AMIT GOYAL and SARA DADIZADEH," A Survey on Cloud Computing"

[3] Dr.Smith Jones." AN EMPIRICAL CRYPTOGRAPHY ALGORITHM FOR CLOUD SECURITY BASED ON HASH ENCRYPTION", International Journal of Computing and Corporate Research ISSN (Online) : 2249-054X Volume 4 Issue 4 July 2014 International Manuscript ID : 2249054XV4I4072014-43

[4] Borko Furth, Flordia Atlantic, "Cloud computing fundamentals", springer Ist edition, 2010, ISBN 978-1-44 19-6523-3.

[5] Brian Hayes. `Cloud computing'. In: Commun. ACM 51.7 (2008), pp. 9-11. issn: 0001-0782. doi: http://doi.acm.org/10.1145/1364782.1364786.

[6] Charlie Kaufman and Ramanathan Venkatapathy, "Windows Azure™ Security Overview", http://www.windowsazure.com/enus/develop/overview/

[7] A method for obtaining digital signatures and public key cryptosystems, R.Rivest, A.Shamir and L.Adleman "communication of the association for computing machinery " 1978, pp 120-126.

[8] RSA algorithm using modified subset sum cryptosystem, Sonal Sharma, Computer and Communication Technology (ICCCT), pp-457-461, IEEE 2011.

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DOI: 10.17148/IJARCCE.2023.125252

[9] Alok Tripathi, Abhinav Mishra, "cloud computing security consideration", 2011 IEEE International Conference on signal processing, communication and computing, 27 October2011, pp. 1-5.

[10] Joshi Ashay Mukundrao," Enhancing Security in Cloud Computing" Information and Knowledge Management www.iiste.org ISSN 2224-5758 (Paper) ISSN 2224-896X (Online) Vol 1, No.1, 2011.

[11] http://en.wikipedia.org/wiki/Cloud_computing.

[12] Atul Khate,Cryptography and network security,second edition.

[13] CRS BHARDWAJ Modibada, Jabalpur (Mp), India,"Modification Of Des Algorithm", IJIRD, Vol 1 Issue 9, November, 2012, , pg.495 – 505.

[14] Cong Wang, Qian Wang, and Kui Ren,Wenjing Lou," Ensuring Data Storage Security in Cloud Computing".

[15] Overview of Cryptography by Alfred J. Menezes

[16] https://en.wikipedia.org/wiki/Phishing

[17] https://en.wikipedia.org/wiki/Internet_security#Phishing

[18] https://en.wikipedia.org/wiki/Malware