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REVIEW ON INTEGRATION OF BIOMETRIC TECHNIQUE TO SECURITY IN CLOUD COMPUTING

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Abstract:- Biometrics is technology of identifying uniquely human subjects by means of measuring & analyzing one or more inherent behavioral or physical traits. These human body characteristics include fingerprints, voice patterns, eye retinas & irises, facial patterns & hand dimension. In this paper, we identify different security problems existing in cloud from several research papers & we show suggested solutions.

Keyword:- Cross cloud computing, Cloud Server, Client server, performance optimization,

[1] INTRODUCTION

Cloud computing is a type of Internet-based computing that provides shared computer processing resources & data to computers & other devices on demand. This is a model for power on-demand somthing is a shared pool on configurable computing resources which could be reepid provisioned & released within minimal management effort. Cloud computing & storage solutions provide users & enterprises within various capabilities to store & process their data in either privately owned, or third-party data centers that might be located far from user– ranging in distance from across a city to across world. Cloud computing relies on sharing of personnel to provide stick together & low scale, similar to over same as public utility an electricity network.

A biometric system might be used for personal recognition instead of token-based methods such as a passport, a physical key & an ID card or Knowledgebase method such as a password. In token-based, “token” could be stolen or lost easily while knowledge could be forgotten or guessed within a knowledge-base.

In this research we will use three dimensional technologies to compare biometric features of person to enhance security.

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During last years there has been growing use of automatic personal recognition systems. Palmprint based biometric approaches have been intensively developed over last 12 years because they possess several advantages over other systems. Palmprint images could be acquired with low resolution cameras & scanners & still have enough information to achieve good recognition rates.

Biometrics With Smart Cards

Smart cards, when combined with biometrics, offer a number of benefits.

smart cards provide a portable storage mechanism for biometric template. This means template management is eliminated across biometric reader network. Enrolled users present their smart card to biometric reader at any location where card is valid. The biometric template contained on card (which is usually encrypted) is compared to live biometric. If two match, system grants user access.

[2] LITERATURE REVIEW

Testing of Cloud Applications in Cross-Cloud Environment By SK.Jameela, Dr.K.Thirupathi Rao

Cloud computing is new paradigm to deliver all hosted services over internet on demand. Ultimate goal of cloud computing paradigm is to realize computing as a utility. cloud is raepid adult towards its goal to support a wide specific of enterprise consumer services real-world applications. Recently a movement towards cross cloud also called as multi-clouds or inters clouds or cloud-of-clouds has emerged which take advantage of multiple independent cloud provider offers for cloud resilience & dependability.

Felix Cuadrado Research Challenges for Cross-Cloud Applications Federated clouds could expose Internet as homogeneous compute fabric. There is an opportunity for developing cross-cloud applications that could be deployed pervasively over Internet, dynamically adapting their internal topology to their needs.

Francis Galton is one of founders of Bio-metrics. In 1892, Galton invented first system of fingerprinting. He has observed that No two persons have same finger print. Each & every person has got a unique finger print pattern. In 1968, Bio-metrics technique was put into operation successfully when well-known bank of New York has arranged

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finger print scanning to access currency walt , first time within world.

But after 1990, when IT (Information Technology) comes into picture, through its advancement & simplicity Bio-metrics technique becomes very popular. This new technology is very easy to understand compare to its heavy label. Because of user-friendly environment this technique is very well welcomed by various fields.

Mariusz Leszczyński (2010)has worked on image preprocessing for illumination invariant face verification. “Performance of face verification system depends on many conditions. One of most problematic conditions is varying illumination condition. They have compared 14 normalization algorithms based on histogram normalization, illumination properties & human perception theory using 3 verification methods.

[3] PROBLEM FORMULATION

Pattern of iris- An iris has a mesh-like texture to it, with numerous overlays & patterns. The iris is located behind cornea of eye, but within front of lens.

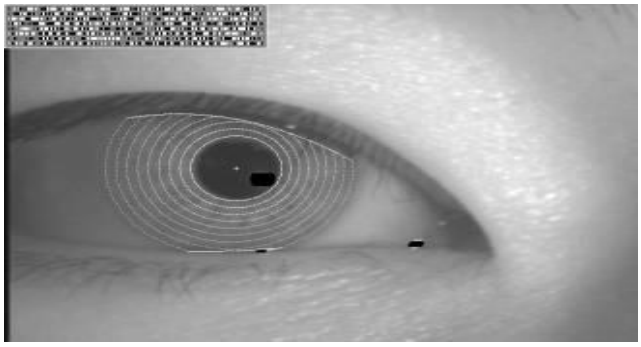

Fig-3 Iris Scanning

Its only physiological purpose is to control amount of light that enters eye through pupil, but its construction from elastic connective tissue gives it a complex pattern.

Face Print- To make this pattern camera will use approx 50 features of face like distance between two eyes, breath of nose, cheeks, area of forehead, jaws etc. These features are converted into digital form. The computer converts face pattern into 0 & 1.After taking input that input is also converted into 0 & 1.If both code matches person is authorized.

The palmprint based systems for verification make use of ink marking to capture the palmprint patterns. These systems are not widely accepted because of high attention and co-operation of users to provide data. Recently digital camera is used to capture

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images and users hand placing is constrained using pegs.

The problem with this system is that the users may not be able to provide the sample for enrollment or verification if hand is injured or physically challenged.

[4] CRYPTOGRAPHY

It had been discipline of information security had been called Cryptography. Meaning of Cryptography had been been "hidden" imitative from Greek kryptos. Cryptography means hide information within storage or transfer including methods such as microdots, integration of words within image.

Cryptography had been process of altering plaintext (ordinary text, just as letter) using process encryption into cipher text using procedure decryption. This procedure had been used to secure communication between two parties within occurrence of third party.

Basic algorithm & terminology

RSA encryption & decryption are mathematical operations. These are exponentiation, modulo particular number. So RSA keys consist of numbers involved within it calculation, as follows:

1. Public key consists of modulus & public exponent;
2. Private key is consisting same modulus plus private exponent.

Key Generation	
Select p, q	p, q both prime, $p \neq q$
Calculate $n = p \times q$	
Calculate $\phi(n) = (p-1) \times (q-1)$	
Select integer e	$\gcd(\phi(n), e) = 1;\ 1 < e < \phi(n)$
Calculate d	
Public key	$KU = \{e, n\}$
Private key	$KR = \{d, n\}$

Encryption	
Plaintext:	$M < n$
Ciphertext:	$C = M^e \pmod n$

Decryption	
Ciphertext:	C
Plaintext:	$M = C^d \pmod n$

Fig Generation of Key within encryption & decryption

[5] CONCLUSION

Cloud computing relies on sharing of resources to achieve coherence & economy of scale, similar to a utility (like electricity grid) over an electricity network. Advocates claim that cloud computing allows companies to ignore up-front infrastructure costs. This research is implementing cross cloud computing in order to share data & study of security threats to existing cross cloud network. Here we make Comparative study of existing security mechanism. We have also make investigation of limitation of cryptographic techniques. This research focuses on Development of application

program interface using java based network programming to Integrate security to cross cloud network by customized cryptographic techniques.

During this instance of time, several different glitches related to palm print recognition have been addressed. Furthermost of studies has been done in palm print recognition due to its stability, reliability & exclusivity. Furthermore, this has been employed for law enforcement, civil applications & access control applications.

REFERENCE

1. Testing of Cloud Applications in Cross-Cloud Environment By SK.Jameela, Dr.K.Thirupathi Rao Research Challenges for Cross-Cloud Applications by Felix Cuadrado
2. " ,Tim grance & Peter millThe NIST Definition of Cloud Computing ," ,2011 National Institute of Standards & Technology ,8930-20899 MD,Gaitherbsburg, .145-800 NIST Special Publication
3. " ,Ellen MessmerNew security demands arising for virtualization, cloud computing ,2011 ," http://www.networkworld.com/article//2178628virtualization/gartner--new-security-demands-arising-for-virtualization--cloud-computing.html
4. Sumedha Kaushik & Ankur Singhal , "Network Security Using Cryptographic Techniques ,2012 " .12 Issue ,2 volume
5. Charles Miers, Fernando Redigolo & Marcos Simplicio ,"A quantitative analysis of current security concerns & solutions for cloud computing " , ,2012*Journal of Cloud Computing: Advances, Systems & Applications* doi:10.1186/2192-113X-1-11 electronic version of this article is
6. Rabi Prasad Padhay, "An Enterprise Cloud Model for Optimizing IT Infrastructure" ,2012 ,International Journal of Cloud Computing & Services Science (IJ-CLOSER) Vol.1, No.3, pp. 123~133 ISSN: 2089-3337 : http://iaesjournal.com/online/index.php/ IJ-CLOSER
7. Nelson Gonzalez, et. al. ,"A quantitative analysis of current security concerns & solutions for cloud computing " ,2012 ,*Journal of Cloud Computing: Advances,*

Systems & Applications doi:10.1186/2192-113X-1-11The electronic version of this article is complete one & could be found online at: http://www.journalofcloudcomputing .com/ content/1/1/11

8. CSA "Security Guidance for Critical Areas of Focus in Cloud Computing," (2009), Tech. rep., Cloud Security Alliance.