

Three Tier secure authentication to cloud using image processing

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Abstract : This paper is about creating a secure authentication to cloud using Three tier secure login system for cloud and storing the data in cloud, each tier has its own unique feature to make the login secure and the last tier would be using image processing. Using this type of login would decrease the access to unauthorized people accessing the content stored on cloud. This paper also deals with storing the data in an efficient and secure manner in the cloud.

Keywords - cloud computing, cryptography, image processing, authentication, Steganography.

I. INTRODUCTION

Cloud computing is shared pools of configurable PC framework assets and larger amount benefits that can be quickly provisioned with negligible administration exertion, frequently over the Internet. Cloud computing depends on sharing of assets to accomplishment of rationality and economies of scale, like an open utility. Outsider mists empower associations to center around their center organizations as opposed to using assets on PC framework and maintenance.[1] Advocates take note of that distributed computing enables organizations to stay away from or limit in advance IT foundations of its cost. Advocates likewise guarantee that distributed computing enables ventures to get their applications up and running quicker, with enhanced reasonability and less upkeep, and that it empowers IT groups to all the more quickly alter assets to take care of fluctuating and eccentric demand. Cloud suppliers normally utilize a "pay-as-you-go" demonstrate, which can prompt surprising working costs if directors are not acquainted with cloud-evaluating models. The accessibility of high-limit systems, minimal effort PCs and capacity gadgets and in addition the broad appropriation of equipment virtualization, benefit arranged design, and autonomic and utility processing has prompted development in distributed computing [1].

Talking about neighborhood reinforcements, an information server situated in your office is normal in numerous organizations. While we don't propose disposing of your more up to date server altogether, thinks about have demonstrated that 80% of organizations obtained a server with more limit than they require. This is a costly bit of equipment that necessities supplanted at regular intervals, by and large. It's not important to pay for a whole server when you just utilize 20% of it. This is the place distributed computing comes in. The cloud is a compensation as you develop arrangement. Since your information is put away in a huge stockroom brimming with servers, you pay for the correct measure of capacity your information requires. [2]

All businesses are vulnerable to cyber attacks. No matter what size (and the numbers say small businesses are the biggest targets for cyber threats), every single business should be arming itself against hackers, viruses, and malware. This security should absolutely be left to the professionals, as any error could be leaving a back door open for attackers. **Cloud computing is a critical factor here - it's essential for recovery.** If your data is not backed up locally and in the cloud, you could have a major problem getting your data back and your business up and running.[2]

II. STEGANOGRAPHY TO CLOUD COMPUTING

Steganography is the strategy for concealing mystery information in any picture/sound/video. More or less, the fundamental thought process of steganography is to conceal the proposed data inside any picture/sound/video that doesn't seem, by all accounts, to be mystery just by taking a gander at. The thought behind picture based Steganography is extremely straightforward. Pictures are made out of computerized information (pixels), which portrays what's inside the image, typically the shades of the considerable number of pixels. Since we know each picture is comprised of pixels and each pixel contains 3-values (red, green, blue) [4].

Now using steganography, the password of the user is stored in the picture by changing the value of the of picture pixel color values.

III. SYSTEM PHOTOGRAPHY

The system has 3 level authentication, procedure, the first level of the authentication, procedure where the user will enter the username as soon as the username is entered then the based on system checks for the location if the location is odd one out from his past cloud access locations then instead then the system verification and image verification to continue. By using this double verification the unauthorized user can't access the cloud even if the password is known and make sure the data is safe from unauthorized people. When the user inputs the steganography processed image and the system compares the original image on the cloud which correspondent to the username, the system produces the passcode of the user, the passcode and email verification would confirm that the user is an authorized person to access the cloud data stored under that particular user name

The above process is done at third tier if when an suspicious activity happens, if there is no suspicious activity the going on the regular login is done by asking the user password and his username.

Apart from the login section this steganography technique can be used when the user wants change his password or when the user forgets his password etc.

IV. CONCLUSION

In the present cyber world security plays a major role, the data stored by the user on the cloud could be his personal details such as government card details or one's bank details the cyber attackers are taking this as advantage so, new techniques should be introduced in order to increase the security of the cloud. There are many cryptographic techniques such as quantum cryptography, genetic algorithms etc which can help in increasing the cloud security.

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