



4 Level Authentication Security In Cloud Computing

P.Shenbagam¹, C. Namasivayam²

Department of Computer Science and Engineering, RVS College of Engineering and Technology¹

Department of Computer Science, Parvathy's Arts and Science College, Dindigul²

ABSTRACT: Nowadays Cloud Computing is an emerging technique in the world. It provides variety of services in data storage. This technique is mainly used developing business purposes. To utilize these services by customer, it is necessary to have strong password authentication. Recently Cloud password authentication methods are in textual password, graphical and 3D password. The primary objective of this paper is to develop a combining “Persuasive Cued Click-Points”, “Alphanumerical authentication”, “Sound Signature” and “Draw –a- Secret” method system this can be overcome the problem of usability and security. In addition, we applied mobile security methods to enhance the security by giving temporary message to phone while entering into system.

KEYWORDS: Authentication, graphical password, guessing attacks, Cloud Computing authentication.

I. INTRODUCTION

Cloud computing is the next generation in computation. Maybe Clouds can save the world; possibly people can have everything they need on the cloud. Cloud computing is the next natural step in the evolution of on-demand information technology services and products. The Cloud is a metaphor for the Internet, based on how it is depicted in computer network diagrams, and is an abstraction for the complex infrastructure it conceals. It is a style of computing in which IT-related capabilities are provided “as a service”, allowing users to access technology-enabled services from the Internet (i.e., the Cloud) without knowledge of, expertise with, or control over the technology infrastructure that supports them.

Email was probably the first service on the “cloud”. As the computing industry shifts toward providing Platform as a Service (PaaS) and Software as a Service (SaaS) for consumers and enterprises to access on demand regardless of time and location, there will be an increase in the number of Cloud platforms available. But it seems that Cloud computing cannot save the universe. Cloud computing cannot run for President. Cloud computing is a very specific type of computing that has very specific benefits. But it has specific negatives as well. And it does not serve the needs of real businesses to hear only the hype about cloud computing both positive and negative. Cloud computing technology is an open standard and service based, Internet centric, safe, fast and convenient data storage and network computing services. Even though cloud computing endow with a lot of benefits that consist of economy of size, active stipulating, amplified litheness and near to the ground principal expenses, yet it also bring in a variety of new fangled security threats. The widespread apprehensions in relation to cloud computing are the privacy and security. A cloud user can access cloud services from any location. It is of most importance that uncover new means of privacy and security to protect data and privacy for the cloud computing. One of the approaches normally in use is the common authentication procedure in which a user needs only a user name and password, in other to make use of an authentication and authorization system in which every client has the right to access the data and applications which are only appropriate to his or her job [1,2].

II. SECURITY ISSUES

One of the biggest security concerns people have when moving to the cloud is related to the problem of keeping data secure and confidential. In this respect, some particular problems arise: who can create data, where the data is stored, who can access and modify data, what happens when data is deleted, how the back-up is done, how the data transfer occurs, etc. These risks include, for example, malicious insiders, insecure user authentication (such as usage of weak passwords), malicious code running on the cloud, vulnerabilities of the shared resources leading to information leakage, or account hijacking by phishing methods, unknown risk profile[2], data loss(no stability in data storage on cloud). Many of these risks can be handled using conventional security practices

III. PROPOSED SYSTEM ARCHITECTURE

In Proposed system four level of authentication is used while entering in to cloud.

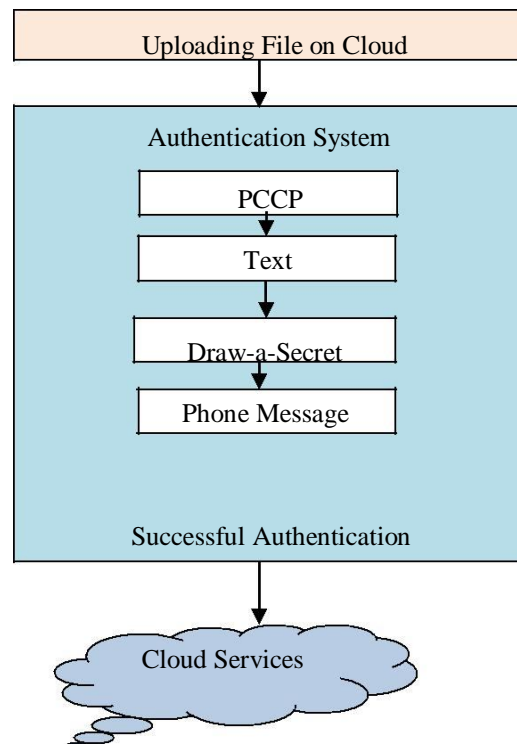


Fig1: Authentication System Architecture

First level is PCCP, In these user can select viewport area in any image .In that view port user can select any point as first level authentication

International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol.2, Special Issue 1, March 2014

Proceedings of International Conference On Global Innovations In Computing Technology (ICGICT'14)

Organized by

Department of CSE, JayShriram Group of Institutions, Tirupur, Tamilnadu, India on 6th & 7th March 2014



Fig2: Persuasive Cued Click Point(PCCP)

Second level authentication is associating textbox along with these pixel selected in viewport area. Text entered in the textbox and pixel row, column value is encrypted and stored in database. Third level authentication is draw-a-secret method.

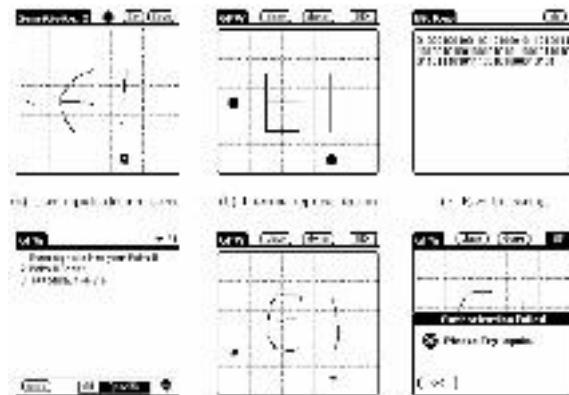


Fig 3. Draw-a-Secret (DAS) technique

In this user should draw any alphabet or letter authentication sending message to mobile phone. In the image in digital format, those values are also stored in database. Fourth level



Fig 4. Mobile Phone Security



International Journal of Innovative Research in Computer and Communication Engineering

(An ISO 3297: 2007 Certified Organization)

Vol.2, Special Issue 1, March 2014

Proceedings of International Conference On Global Innovations In Computing Technology (ICGICT'14)

Organized by

Department of CSE, JayShriram Group of Institutions, Tirupur, Tamilnadu, India on 6th & 7th March 2014

IV. CONCLUSION

Cloud computing provides variety of Internet based on demand services like Platform, Infrastructure, Software. The four level authentication technique is provided here to improve security in cloud computing. This system is the combination of graphical password, text, draw-a-secret method and phone message, which increase the confidentiality and reliability of the data. This technique helps for data security in cloud computing environment.

REFERENCES

- [1] Bob Savage's speech delivered to Science Foundation Ireland's (SFI) forum, 'Science and Industry: Working Together for Economic Recovery', <http://www.siliconrepublic.com/cloud/item/24428-cloud-most-significant-tranlast> retrieved 02.08.2012.
- [2] <http://wikipedia.org/wiki/Cloudcomputing> last retrieved 04.08.2012
- [3] <http://www.vmware.com/solutions/cloud-computing/index.html>, last retrieved 02.08.2012
- [4] Surabhi Anand, Priya Jain, Nitin and Ravi Rastogi, "Security Analysis and Implementation of 3-Level Security System Using Image Based Authentication" the 14th IEEE International Conference on Modeling and Simulation, Oregon, USA, 2012
- [5] Sonia Chiasson, Elizabeth Stobert, Alain Forget, Robert Biddle and Paul C. van Oorschot, "Persuasive Cued Click-Points: Design, Implementation, and Evaluation of a Knowledge-Based Authentication Mechanism", IEEE Transactions on Dependable and Secure Computing, Vol. 9, No. 2 March/April 2012
- [6] Chippy.T and R.Nagendran, "Defenses against large scale online password guessing attacks by using persuasive click points", International Journal of Communications and Engineering Volume 03- No.3, Issue: 01 March 2012
- [7] A Graphical Password Authentication System Ahmad Almulhem Computer Engineering Department King Fahd University of Petroleum and Minerals Dhahran, Saudi Arabia ahmadsm@kfupm.edu.sa
- [8] Touch-based Authentication for Secure Online Banking the Identity, Privacy and Security Institute University of Toronto
- [9] Integration of Sound Signature in Graphical Password Authentication System Saurabh Singh Invertis University Bareilly, India Gaurav Agarwal Invertis University Bareilly, India E. Stobert, A. Forget, S. Chiasson, P. van Oorschot, and R. Biddle, "Exploring Usability Effects of Increasing Security in Click-Based Graphical Passwords," Proc. Ann. Computer Security Applications Conf. (ACSAC), 2010.
- [10] S. Chiasson, A. Forget, R. Biddle, and P.C. van Oorschot, "User Interface Design Affects Security: Patterns in Click-Based Graphical Passwords," Int'l J. Information Security, vol. 8, no. 6, pp. 387-398, 2009.