Abstract

In the present work, an innovative mechanism to convert a USB drive into a key has been introduced. A unique key file is written on to the drive which acts as the authentication mechanism to access the user's computer. This device can be used to lock or unlock the system by simply removing or attaching it. The current session is not hampered even though the system is secure and cannot be accessed without the specific USB drive. To further improve security, the key file contents are rewritten after a set time interval, to preserve the security even if the drive is lost. In absence of the USB drive, the user can gain access by entering the master password. A particular system might have more than one USB keys as well, and a key can be used to access multiple systems. This mechanism was then coded into a deliverable software which implemented all the security features including possible intrusion detections and alerts. The advantage of this mechanism is that it is a faster and efficient way to temporarily pause the current session of a system without having to log out. It is most suitable for workplace workstations as well as for desktops, personal computers and laptops. There is, however, scope to improve the current method add incorporate more features.
USB based Dynamic Authentication Alert System for Computers

- Yu Jin-wei “The program design for the network security authentication based on the USB Key technology”, Electronic and Mechanical Engineering and Information Technology (EMEIT), 2011 International Conference on, On Vol. 5, page(s): 2215 – 2218
- Jiang Yu, Chuan-fu Zhang “Design and Analysis of a USB-Key Based Strong Password Authentication Scheme”, Computational Intelligence and Software Engineering (CiSE), 2010 International Conference on, On page(s): 1 - 4
- Dino Esposito, Microsoft® . NET: Architecting Applications for the Enterprise (Pro-Developer), Microsoft Press, 2008.

Index Terms

Computer Science
Security

Keywords
Windows Security USB Bases Authentication Lock MD5 Hash Intrusion Detection Personal Computer
User Verification.