Abstract

Currently, the major problem for software developers is software piracy. To protect software from piracy, many techniques are developed, and one of them is software watermark. Software watermark provides authentication and copyright protection by embedding a watermark into the software, and the owner can claim ownership of the software by watermark extraction. The software watermarking improves the computer security with a robust solution to expose the unauthorized modification or illegal copying of different kind of attacks. Now, there many techniques for embedding and extracting watermark into software and most recent one used malicious code like return-oriented programming (ROP) for good uses. Moreover, any software protection with an efficient watermarking algorithm based on ROP is a relatively new branch of computer security. Thus, in this paper, new software watermark has been designed using ROP technique that enhances the existing one. The watermark has been embedded using ROP and it has been extracted once ROP trigger is triggered. ROP trigger uses a SHA256 hash function to compare between watermark secret input and user entered key. As a result, the proposed work has strong resilience, Stealth and minimum runtime overhead.


15. Immunity, I. Immunity debugger.


Index Terms

Computer Science  Security

Keywords

Computer security, Software watermark, Return-oriented programming and Secure Hash Algorithm.