Information can be kept secure by an encryption process in cryptography technique. In this research we discussed comparative analysis of symmetric algorithms: Tiny Encryption Algorithm (TEA) and LOKI in terms of their complexity, time and speed performance. The testing was conducted using 30 data with size varies between 50 bytes and 1500 bytes. Thirty data was tested 50 times. The result shows that TEA is faster in encryption and decryption compared to LOKI and the complexity of both algorithms are linear algorithms (O(n)).

Keywords : Big-O, encryption, cryptographic, LOKI, performance, Tiny Encryption Algorithm, TEA