Abstract

Today, communication via network and Internet applications require protection from cyber attacks, especially that involves data transmission [15]. Several algorithms for hiding and securing data have been developed to overcome tapping. Cryptography, Watermarking, and Steganography are three main techniques are most commonly used for data hiding to keep the security of data while transmission or digital communication is done. Cryptography emphasis on data protection by encrypting the secret data. Watermarking and Steganography have similarities in hiding data into a digital media. Watermarking is more concerned with the authenticity of the media to protect copyrights, and steganography focus on keeping data hiding. The difference Steganography with other methods are the goal that concern to the secret data, resistance to image processing and compression method, and the capacity of secret data that can be embeded into cover image [3]. This research propose a graph based quantization scheme, which represented embedding on graph. This scheme focus on data hiding capacity for compressed text by Arithmetic Coding and keep the embedded image on good terms. This scheme give a good performance 28,5324 db for the PSNR, and success embed 7255 bit.

Keywords *: Data Hiding, Graph Based Quantization, Vector Quantization, Graph Coloring, Arithmetic Coding, and Genetic Algorithm.*