

STEGANOGRAPHY

Steganography Explained

- **Steganography is the art of hiding secret information in plain-text or in clear-sight.**
- Steganographic tools can easily embed secret files into images, movies, audio files or other file formats.
- The word steganography comes from the Greek word “**steganos**” which means “hidden” and “graph” or “**graphia**” which means writing.

The purpose of steganography is to hide even the mere existence of the message that is being sent.

Steps:

1. The secret file is encrypted.
2. The encrypted secret file is embedded into a **cover file** according to a steganographic algorithm. The cover file that contains the secret message or the embedded file is called **stego file**.
3. The stego file is sent normally (in clear-text or encrypted) to the destination or is made public to be easily reached.

Steganography Use-Cases

- Sending encrypted messages without raising suspicion, such as in countries where free speech is suppressed.
- Digital watermark of the copyright holder.
- Hiding or transporting secret information (secret documents, Bitcoin private key etc).
- Transporting sensitive data from point A to point B such that the transfer of the data is unknown.

Steganography In Depth

Color **orange** = RGB(255, 153, 0) or in binary:

(11111111**1**,1001100**1**,00000000**0**) -> embedding 1, 0, 1 -> (11111111**1**,1001100**0**,00000000**1**)

New color = RGB (255, 152,1)

12.5%