Sleep – Steganography Challenge Writeup

Sleep is a steganography-based challenge where the flag is hidden inside a single image file. The provided archive intentionally minimizes distractions, forcing the solver to carefully inspect the image structure rather than relying on visible content.

Step 1: Inspect the Archive

The ZIP archive contains only two files: a PNG image and a README claiming that the image is useless. This is intentional misdirection, indicating that the image itself must be analyzed.

Step 2: Analyze the PNG File Structure

PNG files officially end at the IEND chunk. By examining the raw file data, additional bytes were discovered after the IEND marker, confirming that hidden data was appended to the image.

Step 3: Extract and Decode Embedded Data

The appended data was identified as Base64-encoded text wrapped inside an HTML-style comment. Decoding this Base64 content revealed multiple hints and an obfuscated string.

Step 4: Apply ROT Cipher

One of the decoded hints stated that "ROT is ancient," suggesting the use of a rotation cipher. Applying ROT47 to the obfuscated string successfully revealed the flag. Note: Other ROT variants may be tested, but ROT47 is the correct transformation in this case.

Flag

LNMHACKS{looted_bitcoins_from_ak47}