PNG WG Meeting Minutes

Dec 8th, 2025

Attendees:

(Alphabetical order)
Chris Blume
Chris Lilley
Chris Needham
Cosmin Truta

Topics & Minutes:

- Reminder members to rejoin the new PNG charter.
- Are there industry standard methods of testing compressed image quality that are sufficient for irons and logos? Are (P)SNR and SSIM sufficient or are they tailored for photos?
    - Look into what other codecs (JPEG lossless, WebP lossless) likely have faced this to compare their lossy variants. We should look into what they do. Although, it might pertain to photos.
    - Sarnoff score might be a good perceptual measure. SSIM may be better though.
    - Look into https://github.com/SeyedMuhammadHosseinMousavi/A-New-Edge-and-Pixel-Based-Image-Quality-Assessment-Metric-for-Colour-and-Depth-Images
    - SSIM might be our best bet, since SSIM is designed for structure, which includes hard edges.
- Are there test images we can use? I suspect US road & safety iconography might work and is likely public domain.
    - AI for everyone: Find some icons / logos for us to test.
    - https://publicdomainvectors.org/en/public-domain-logos
- Action Items from TPAC 2025 to assign:
    - AI to assign: Check if existing decoders pay attention to the compression method byte.
        - Investigate Chrome, Firefox, Photoshop, GIMP
        - We should make a MD file in the repo for what we should test so people can update it.
        - Libpng will exit without attempting to decode
    - AI to assign: Investigate image-specific compressors. (DEFLATE is general purpose.)
    - AI to assign: Poll users to understand mentality. Do people feel “I want a lossy image, so JPEG”? Do they know JPEG-XL can be both lossy and lossless? What goes through people’s minds when they save an image for the web?

        - Search to find tutorials on the web. That will give us a strong indicator of people's mentality / zeitgeist. These might be more conservative or promoting the author's goals.
        - We can do some qualitative polling as well.
    - AI to assign: Should we mention pigz-style under "Implementation Considerations"?
    - AI to assign: An existing PNG with usual compression which is then further compressed by Brotli for HTTP transfer should not be significantly smaller. I suspect the non-image data will compress better, but the compressed image data likely won't compress much further. Nevertheless, we should confirm this.
    - AI to assign: Do other compression methods (ZSTD, LZ4) have restart markers?
        - If they do not, this could cause us to backpedal on parallel (de)compression.
        - ZSTD apparently does not support restart markers. LZ4 does not but does have something similar (frame format w/ block boundaries and optional checksums which can be used for recovery points).
- For things like 10- and 12-bit, the SBIT chunk could be left out. And even if provided, we might not enforce that those unused bits are filled with all zeros, for example. We should investigate the impact of this.
- Cosmin would like to discuss libpng planning for interested implementers.

Action Items:

- CB to work on pigz-style parallel encoding
- CB to create MD in repo
- CT to investigate <16bit compression & filtering
- CT to investigate image-specific compressors (not just general purpose compressors like DEFLATE)
- CB to search for tutorials to get a feel for user's mentality.
- CL to update Implementation Considerations section to mention pigz.
- CB to investigate if HTTP Brotli compression is going to be better than adding Brotli to the list of compressors. Further, if web servers mark PNGs as already compressed or not.
- CB to check which Rust PNG decoder Chrome uses so we can make sure it is listed in our tools.
- CT to send an email to help CL and CB with release preparation.