

PNG Image Decoder IP Core Available from CAST and IObundle

Hardware engine provides fast, flexible, standard-compliant lossless decompression for one of the most popular image formats

Woodcliff Lake, New Jersey — May 31, 2022 — Semiconductor intellectual property providers CAST and IObundle today announced the availability of a hardware IP core for the decompression of images losslessly compressed using the popular Portable Network Graphics (PNG) file format.

CAST and IO Bundle believe the new PNG-D IP Core is the first such decoder core to support Dynamic Huffman Tables, a feature essential for broad encoder compatibility and the processing of highly compressed images. Further, while previous PNG decoder cores only support 8-bit colors, the PNG-D can process RGB and RGBA images with 8 or 16 bits per color.

“IO Bundle has designed the PNG-D to deliver reliable PNG decoding for the broadest range of image types and encoders supported by the standard,” said Nick Sgoupis, US director of engineering for CAST. “The Decoder is very fast yet economical in its silicon requirements, handling over 100 Mpixels/second in mid-range FPGAs and many hundreds of Mpixels/second in modern ASIC technologies.”

CAST shared its two decades of reusable compression IP experience with IPbundle, and the result is an easy-to-use, reliable core ready for many image display and processing applications.

The PNG Decoder operates without a host processor and uses standard AMBA AXI4-Stream interfaces for easy integration. It handles all PNG chunk types, all prediction filters, and all compression options. It supports all color types—Greyscale with or without alpha, Truecolor with or without alpha, and Indexed (Palette-Based)—with 8 or 16 bits per color channel. (Support for interlaced data and less than 8 bits per channel can be added upon request.)

With built-in error checking, the decoder core detects, reports, and automatically recovers from various possible errors in the input files. The core is available in LINT-clean, robustly verified, Verilog RTL source format. Its deliverables meet CAST's stringent quality standards and include everything required for a successful implementation.

Sourced from [IObundle Lda.](#), the PNG Decoder is now available from and supported by CAST. A companion PNG Encoder IP Core will follow soon. Visit the [PNG D Lossless Image Decompression Core product page](#) for more technical information, including representative ASIC and FPGA implementation results. Contact CAST at info@cast-inc.com to discuss how the PNG cores might help solve your system design challenges.

About CAST

Computer Aided Software Technologies, Inc. (CAST) is a silicon IP provider founded in 1993. The new PNG codec cores are part of CAST's extensive line of image, video, and data compression engine IP. CAST's ASIC and FPGA IP product line also includes RISC-V and other microcontrollers and processors; interfaces for automotive, aerospace, and other applications; various common peripheral devices; and comprehensive SoC security modules. Learn more by visiting www.cast-inc.com.

CAST is a trademark of Computer Aided Software Technologies Inc.
Other trademarks are the property of their respective owners.

###

Media Contact:
Artemis Couroupaki, a.couroupaki@cast-inc.com