

JPEG 2000 Demo

Java-based Evatronix JPEG 2000 Encoder Demo Application

MAJOR FEATURES

- ◆ Meets ISO/IEC 15444-1 JPEG 2000 requirements
- ◆ Input image resolution up to 4096 x 4096 pixels
- ◆ Supports 1- or 3-component images with 8-bit sample depth
- ◆ Any tile size ranging from 8x8 up to 2048 x 2048
- ◆ User defined rectangular code block dimensions ranging from 4x4 to 64x64
- ◆ Both lossless and lossy compression mode
- ◆ Reversible and irreversible 4:4:4 color transform
- ◆ Programmable quantization styles: derived and expounded
- ◆ Two DWT filter types: 5x3 and 9x7
- ◆ User defined number of DWT decomposition levels ranging from 0 to 5 (lossy compression) or 7 (lossless coding)
- ◆ Rich entropy encoding modes

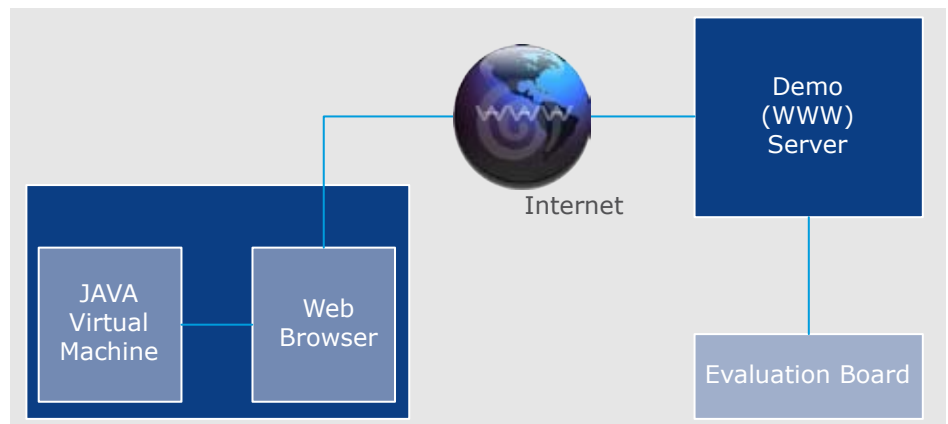
OVERVIEW

The JPEG 2000 Demo is a dedicated demonstration system which enables quick and easy evaluation of the JPEG 2000 Encoder IP core from Evatronix.

This system is available for every user registered at the Evatronix website. After logging in, you can upload the images you want to encode, and then edit compression parameters. Once the encoding settings are ready, you can start the compression. The WWW server is connected to a physical evaluation board featuring an FPGA and RAM, both used for implementation of JPEG 2000 Encoder IP core. When the compression is finished, the server sends the compressed image data back to your browser, where you can view them and compare with original images.

For the purpose of the demo, you do not need any dedicated software besides an Internet browser with Java™ technology enabled.

BLOCK DIAGRAM



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BENEFITS

- ◆ Rapid and easy evaluation of JPEG 2000 encoder IP core's features and performance
- ◆ Compression results can be viewed in the web browser within a few minutes' time
- ◆ Only quick registration needed
- ◆ Compression of up to 10 images in one shot with the same encoding settings
- ◆ JPG/BPM/GIF/PNG/PPM/PGM images supported
- ◆ Two simplified compression parameter edition modes
- ◆ Possibility to define all the available compression settings by the user in the advanced mode
- ◆ Included calculation of evaluation metrics: PAE, MSE, PSNR

RELATED PRODUCTS

JPEG 2000 Encoder - an entirely hardware implementation of a JPEG 2000 compression codec that is based on the ISO/IEC 15444-1 standard.

The encoder enables flexible configuration of compression parameters for a fully customized image compression level. Full hardware implementation of TIER-1 and TIER-2 EBCOT encoder allows setting up to 32 different arithmetic entropy coding styles, which give user ability to precisely set size and quality of output bitstream.

STANDARD DELIVERABLES (FOR JPEG 2000 ENCODER)

- ◆ RTL source code
- ◆ Synthesis support for Synopsys® and Cadence® tools with a set of synthesis scripts
- ◆ Simulation support for Mentor Graphics® and Cadence® tools with a set of scripts and macros
- ◆ Extensive VHDL test bench
- ◆ Documentation:
 - ▶ Design Specification
 - ▶ Verification Specification
 - ▶ Test Plan
 - ▶ Integration Manual
- ◆ 30 days of technical support
- ◆ 90 days of warranty against defects

DELIVERY OPTIONS (FOR JPEG 2000 ENCODER)

- ◆ EDIF netlist for FPGA and low volume production
- ◆ One-year maintenance
- ◆ On-site support and training



For more information on our IP portfolio visit www.evatronix-ip.com



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