



Aware **JPEG2000**

high-performance, standard compliant
image compression software

Image Compression
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 **A W A R E**

Corporate Overview

- Founded in 1986
- The first company to commercialize wavelet image compression
- a profitable provider of compression technology to many large systems vendors
- stable public company
- viable technology partner
- 120 employees





Aware and JPEG2000

- Active participation in the US and International JPEG2000 standards bodies
 - Contributor of JPEG2000 compliance images
- Aware JPEG2000 development has been a multiple man-year project
- API design, optimization work, and commercial implementation based on over twelve years of R&D and a proven business model
- Most large systems integrators, machine developers, and governments prefer to purchase proven COTS software



The Aware JPEG2000 Technology

- Professionally developed and maintained
 - A COTS library with example programs
 - no foreign or domestic university code used
- Designed for mission critical industrial, military and medical applications
- Highly flexible and easy-to-understand API
- Highly optimized for speed and efficient system resource usage
- Has been selected as the technology of choice by several multi-national system companies



Features of the *Aware* Libraries

- Basic NITF File read/write with import/export of JPEG2000 imagery
- JPEG2000 Codestream Reformatter
 - progression order changes
 - precinct size changes
 - ROI decode
 - drop channels, drop quality, drop resolution layers, drop certain regions
 - extract tiles
 - add/remove tile and packet markers
 - add/remove error resilience markers



Library Features

- Full API with over 90 functions
 - example programs with source code
 - Viewer programs with source code
 - Browser plugins
- Standard Compliant JP2 support
 - API to support read/write meta data boxes

Library Features: multithreading

- Aware JPEG 2000 library can be used in a multithreading environment
- Example:
 - 16 processor machine
 - Image: 3600 cols by 2696 rows, 24 bpp per channel.
 - Tiles: 1024 by 1024.
 - Compression ratio: 10:1.

Threads	Compression Time (secs)
1	13.16
2	7.35
3	5.23
4	4.07



Supporting Technologies

- JPEG2000 Part II
 - provides efficient support for 3-D image data sets
 - Fully Compliant with the multi-component transformations in Part 2 of the JPEG 2000 Standard
 - Includes additions to JPEG 2000 library for 3D compression of hyper-spectral and volumetric imagery
 - Significant improvements over 2D compression for hyper-spectral images:
 - 10-20 dB in quality at same compression ratio
 - Much higher compression at same quality



Supporting Technologies

- JPIP - Interactive Protocol
 - Fully Compliant Implementation of Part 9 of the JPEG 2000 Standard
 - Includes additions to JPEG 2000 library for JPIP data bin extraction and insertion
 - Includes Server and Client modules for JPIP interactions



Aware Provides a Strategic Advantage

- Aware provides JPEG2000 to several markets
 - Aware customers in each market drive improvements
 - Entire customer base receives benefits of Aware's active feature development process
- Technical support is provided by the designers of the library and utilities.
- We are continuously updating our software and adding new features (3D, JPIP, etc)
- Aware software is not expensive.



We Are Easy To Work With

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- Thank-you!