

J2K API Toolkit™

Mentalix's **J2K API Toolkit** addresses the FBI-certified 1000 ppi fingerprint image compression and decompression needs of turnkey system providers. The Toolkit is for system integrators and programmers who offer electronic fingerprint identification systems to customers in the law enforcement industry. The J2K API Toolkit enables developers to quickly add JPEG 2000 compression and decompression capabilities that meet the requirements of the NIST FP JPEG 2000 profile to custom fingerprint solutions. Mentalix is committed to continually fine-tuning the Toolkit to keep current with platform and operating system changes, as well as re-certifying the product as needed. In addition, Mentalix provides multiple products, already utilized by major systems integrators worldwide, for IAFIS-certified fingerprint scanning, fingerprint image utilities, WSQ compression and decompression, and color image acquisition – all of which can be used in conjunction with the J2K API Toolkit to create a complete fingerprint solution for end users.

The Toolkit is sold on a per-developer-seat basis. Developers will need to determine which specific APIs are required for their end use, and in turn, will need to purchase from Mentalix the appropriate runtime licenses for each of their targeted end-user systems. A runtime license agreement will specify the particular APIs and royalty to be paid to Mentalix for each runtime license.

Easy to integrate

Comprised of a single, platform-specific runtime library module, the product is available in a DLL for Windows® platforms and a shared library for UNIX® systems. On Windows platforms, the DLL is easily usable in C and Visual Basic development environments. The Toolkit offers a uniform interface across all supported platforms. For those who need additional capabilities, the J2K API Toolkit also works as an add-on to Mentalix's other fingerprint and scanning API products.

Reduces development effort

With its 'C' API, the J2K module allows you to quickly add fingerprint image compression and decompression functionality to Windows, UNIX or Linux systems. The subroutines and sample 'C' program make it easy to include these features within larger systems.

J2K format advantages

The JPEG 2000 Fingerprint Image Compression Algorithm is the standard mechanism selected by the FBI and NIST for compressing 1000 ppi fingerprint data (or similar imagery such as palm prints or footprints). The

JPEG 2000 standard is an ISO international standard wavelet-based compression that is used for a wide range of image compression applications, and it has not been tuned specifically for fingerprint imagery. The JPEG 2000 format also supports multiple layers to enable transcoding 1000 ppi JPEG 2000 data to 500 ppi WSQ data with minimal data loss. Transcoding enables interoperability for 500-ppi-based WSQ systems and 1000-ppi-based JPEG 2000 systems.

NIST has created a specific profile, known as the FP JPEG 2000 profile for fingerprint images, to ensure high-quality image data and compatibility between systems. The J2K API Toolkit enables compatibility with the FP JPEG 2000 profile as required by the ANSI/NIST–ITL 1-2007 standard to compress, decompress, and transcode 1000 ppi images. Certification testing required by this profile has been successfully completed for all supported platforms.

Benefits

- Meets FBI certification standards for JPEG 2000 compression and decompression support
- Compatibility with compliant products
- Industry-leading performance
- Transcodes 1000 ppi JPEG 2000 data to 500 ppi WSQ data
- Leverages latest hardware advances
- Accepted by major systems integrators
- Robust design does not impose arbitrary limits on print sizes

Features

- Easy-to-use API
- Visual Basic Support
- Sample C and Visual Basic programs with source code
- Included utility program supports conversion between JPEG2000 and RAW, BMP, and MTX formats
- Consistent API across all supported platforms
- Windows, Solaris, HP-UX, and Linux support
- User-controlled compression ratio for general-purpose use
- Compression/Decompression support for images with 4, 8, 12, 16, 24, 36, and 48 bits per pixel
- Lossless compression support
- Complete error handling
- Multi-threading support
- Supports all fingerprint, palm print and footprint image sizes



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