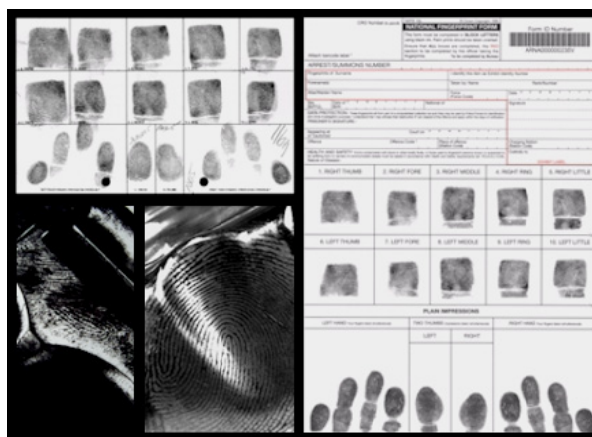# Fingerprint Scan API Toolkit™

Mentalix's **Fingerprint Scan API Toolkit** is designed for system integrators and programmers who provide electronic fingerprint identification systems to customers in the law enforcement industry. Additionally, this Toolkit addresses the image acquisition needs of civilian, security and social service applications that require scanning solutions compliant with the FBI's IAFIS Image Quality Specifications. The flexible, yet easy-to-use library of functions includes the cornerstone image acquisition functionality for development of 10-print card and latent print scanning solutions. The Toolkit also features IAFIS-certified support for certain devices; the number of IAFIS-compliant scanner/platform combinations will be updated and expanded regularly as additional products achieve FBI certification.

Our Fingerprint Scan API Toolkit is optimized for high quality, superior performance and smooth integration. We offer a variety of scanner/platform combinations to suit different requirements. For example, the IAFIS-certified module for the Epson Perfection 4990 scanner on Windows® offers a low cost, high speed solution, while the Epson Expression 10000XL supports ADF and duplex scanning. Contact Mentalix for per-license royalties required for use of Mentalix's Fingerprint Scan API Toolkit runtime module(s).

Certified "drop in" solutions save time

Mentalix relieves the burden of the IAFIS certification process for you by offering pre-certified software solutions for off-the-shelf scanning hardware. Unlike other vendors, Mentalix does not lock you into purchasing proprietary hardware systems. Because we offer software-only IAFIS-compliant solutions, you can select from a variety of supported off-the-shelf scanning devices -- resulting in greater hardware choice and availability. The Toolkit interface is not dependent on specific platforms and scanning devices, which means that Mentalix can quickly adapt the application for certification testing on additional operating systems and scanner models. As a result, we can provide "drop-in" software updates as new scan devices become available. This makes it easier for systems integrators to take advantage of the latest technology developments -- without being forced to replace entire systems.

The Toolkit provides developer access to Mentalix's growing list of Appendix F 500/1000 ppi IAFIS-certified fingerprint scanning runtime library modules -- certified

Systems integrators can set up a scanning interface to acquire U.S. 10-print cards (top left), latent prints (lower left) or custom cards such as international cards (right).

by the FBI as having been tested and found to be in compliance with the FBI's IAFIS Image Quality Specifications (IQS). While the IAFIS standard for scanning 10-print cards is 500 ppi, latent prints require high-resolution scans at 1000 ppi.

Toolkit modules for both the 500 ppi and 1000 ppi levels are available. Mentalix was the FIRST vendor to develop certified solutions for latent print scanning, and we offer MORE compliant products than any other company on the FBI's provider list.

Supports custom requirements & multiple platform/scanner choices

With the Fingerprint Scan API Toolkit, systems integrators can set up an interface to scan standard 10-print fingerprint cards or user-defined latent print scans. A fingerprint definition template feature supports non-U.S. cards or custom applications.

The Toolkit's shared object library has a 'C' interface that can be used to carry out IAFIS-compliant scanning functions. This allows you to easily integrate a consistent fingerprint scanning interface within larger turnkey systems -- including UNIX® and Windows systems, as well as multi-platform environments. In addition, since Mentalix's software supports a variety of off-the-shelf scanner models, you have the freedom to choose the platforms AND the scanners that best suit your needs.

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Complementary products

Fingerprint API Bundle™: For Windows users, we now offer the Fingerprint API Bundle, which supports all non-ADF scanners and includes the API Toolkits listed below as well as the Fingerprint Scan API Toolkit -- at a fraction of the regular price. A subcription also entitles you to upgrades any time a new scanner is FBI-certified, which alleviates the hassles of scanner end-of-life cycles.

Fast WSQ API Toolkit™: Enables integrators and developers to add FBI-certified fingerprint image compression and decompression functionality to custom law enforcement programs, civilian security applications and ID systems. Even for customers who do not require FBI compliance, the WSQ format is the industry standard for compressing 500 ppi fingerprint data.

Fingerprint Utility API Toolkit™: Allows you to create a more complete solution by adding fingerprint image processing functions such as cropping, card validation and scanner hardware quality maintenance to your turnkey system. Reads and writes NIST files, and includes image analysis routines that fully automate the Fingerprint Scan API Toolkit's overscan function. Used with the Fingerprint Scan API Toolkit, the Utility Toolkit enables asynchronous scanning which works in the background, freeing up your computer for other tasks.

CardPrint API Toolkit™: Allows you to add FBI-certified, ten-print card printing capabilities to fingerprint systems. The algorithm is specifically tuned for the printing of fingerprint images, to ensure that ridges are not broken up or hidden, as is typically seen with general-purpose laser printing algorithms.

Pixel!SCAN API Toolkit™: Since some customers also need non-certified and general-purpose scanning, Mentalix provides an optional add-on product for integrators -- the Pixel!SCAN API Toolkit. With the Pixel!SCAN API Toolkit, you can create a comprehensive scanning interface that provides not only fingerprint scanning tools, but also the capability to scan other types of images. For example, you may add full-color scanning functionality to acquire biographical data, mug shots and photos for suspect records.

Maintenance & Support: Two levels of annual support are available. A maintenance contract entitles you to unlimited technical support and maintenance releases for the duration of the contract. Maintenance releases (designated by the number to the right of version decimal point) consist of minor enhancements and scanner/OS support updates, which may include re-certification of scanners. The next level, a subscription, includes all the same benefits plus major upgrades. Major upgrades may include significant feature additions such as support for newly certified scanner/platform modules. Our engineering team also offers consulting to help you meet more specialized requirements.

Feature Summary

Certified Runtime Library Module Highlights:

- IAFIS-certified modules based on scanner/platform combination
- Unmatched PRICE/PERFORMANCE level: The Epson Perfection 4990 module offers 20-second, 10-print card scanning speed at an estimated $2,000 -- including the scanner
- "Software only" -- no proprietary hardware
- Enables image acquisition with off-the-shelf scanners
- Supports several UNIX and Windows platforms, as well as multi-platform systems
- Provides uniform interface across platforms
- One-piece DLL or shared object library module designed for ease of use and quick updates. On Windows platforms, the DLL is easily usable in C, Visual Basic and .NET development environments.
- "Drop in" upgrades allow you to leverage scanning technology advances quickly
- Libraries contain core image acquisition code
- Non-certified modules for applications that do not require IAFIS-compliant fingerprint scanning
- Automatic preview scan warms up illuminant to maintain quality
- Performance-tuned scans and image correction
- Piecewise acquisition and processing of corrected image data
- Interactive progress reporting displays status
- Scan abort stops a scan before completion

Supplementary Tools to Simplify Integration:

- Sample 'C' programs for ease of use
- Overscan function eliminates the need for precise positioning of the card on the scanbed
- Interactive GUI demonstration program with image viewing and file export capabilities
- Demo can be used to verify installation and software operation and perform consistency checks and hardware reliability tests
- Demo includes these scan parameters:
  - Scanner setup and selection
  - Define scan cycles:
    - Acquire a batch of different cards
    - Scan for performance testing
  - Selectable scanning resolution
  - User specification of fingerprint card layout
  - Optional retrieval of raw image data or IAFIS-certified (corrected) data
  - Multiple output options:
    - View scanned image data
    - Export scanned data to TIFF file
    - Generate a histogram
  - Save scan settings for future use
  - When viewing scanned image:
    - Zoom in/out
    - Flip/Rotate
    - Print
    - Export
    - Convert image to a different file format

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Fingerprint Scan API Toolkit Scanner/Platform Support

SCANNER	INTERFACE	Windows 2000/XP	SUN Solaris 8/9*	HP-UX 11*	IBM AIX 4.3.2*	Suse Linux*
Agfa DuoScan T1200	SCSI	F5, 3.2	NC, 3.3	F5, 2.0	F5, 1.1	N/A
Epson Expression 1600	SCSI	F5, 3.2	NC, 3.3	NC, 3.3	F5, 3.2	N/A
Epson Expression 1640XL*	SCSI	F5, 3.1	NC, 3.3	NC, 3.3	NC, 3.3	N/A
Epson Expression 1680	SCSI	F5, 3.1	NC, 3.3	F5 & F1K, 3.3	F5, 3.2	N/A
Epson Expression 10000XL*	USB 2.0	F5 & F1K, 3.3	N/A	N/A	N/A	F5 & F1K, 3.3
Epson Perfection 1640SU	SCSI	F5, 3.3	NC, 3.3	NC, 3.3	NC, 3.3	N/A
Epson Perfection 2400	USB 2.0	F5, 3.3	N/A	N/A	N/A	N/A
Epson Perfection 4870	USB 2.0	F5 & F1K, 3.3	N/A	N/A	N/A	NC, 3.3
Epson Perfection 4990	USB 2.0	F5 & F1K, 3.3	N/A	N/A	N/A	F5 & F1K, 3.3
Epson Perfection V700	USB 2.0	F5 & F1K, 3.3	N/A	N/A	N/A	NC, 3.3
HP Scanjet 6200C	SCSI	NC, 3.3	NC, 3.3	NC, 3.3	NC, 3.3	N/A
HP Scanjet 7400C	SCSI	F5 & F1K, 3.3	NC, 3.3	NC, 3.3	NC, 3.3	N/A
Improvision IS510-1K*	Dunord I-3318-3 PCI card with Dunord driver 4.6.0.94 or later	F5 & F1K, 3.3	N/A	N/A	N/A	N/A
Improvision IS520*	Dunord E/ISA	N/A	N/A	N/A	N/A	NC, 3.3
Microtek ScanMaker 5	SCSI	F5, 1.0	NC, 3.3	NC, 3.3	F5, 1.1	N/A
Primagraphics 5200	SCSI	F5, 3.2	NC, 3.3	NC, 3.3	NC, 3.3	N/A
UMAX PowerLook 1100	FireWire	F5, 3.3	N/A	N/A	N/A	N/A
UMAX PowerLook 2000	SCSI	NC, 3.3	NC, 3.3	NC, 3.3	NC, 3.3	N/A
UMAX PowerLook 2100XL	SCSI	NC, 3.3	NC, 3.3	F5, 3.3	NC, 3.3	N/A
UMAX PowerLook III	SCSI	F5 & F1K, 1.0	NC, 3.3	F5 & F1K, 3.3	NC, 3.3	N/A

KEY:
Chart shows certification status and software version.
F5 = Certified for FBI IQS Appendix F, 500 ppi
F1K = Certified for FBI IQS Appendix F, 1000 ppi
NC = Non-certified support
N/A = Not available

This scanner is not supported in the Fingerprint API Bundle product.

Identity Management Solutions