Fingerprint Scan API Toolkit™

IAFIS-Certified Solutions for Systems Integrators

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 Federal Bureau of Investigation's IAFIS (Integrated Automated Fingerprint Identification System) 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. For example, the IAFIS-certified module for the Agfa DuoScan T1200 scanner on Windows® performs at two to three times the speed of competing products -- yet shaves nearly $2,000 off the overall solution cost. Contact Mentalix for per-license royalties required for use of Mentalix's Fingerprint Scan API Toolkit runtime module(s).

Pre-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.

Your Integrated Law Enforcement System

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Fingerprint Scan API Toolkit DLL or Shared Object Library Module

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Off-the-Shelf Scanner

= Complete Fingerprint ID System

The Toolkit provides developer access to Mentalix's growing list of Appendix F 500/1000 ppi IAFIS-certified fingerprint scanning runtime library modules -- certified by the FBI as having been tested and found to be in compliance with the FBI's IAFIS Image Quality Specifications (IQS). The IAFIS IQS includes different certification levels for scanning 10-print cards and latent prints; while the 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.

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) with the Fingerprint Scan API Toolkit.

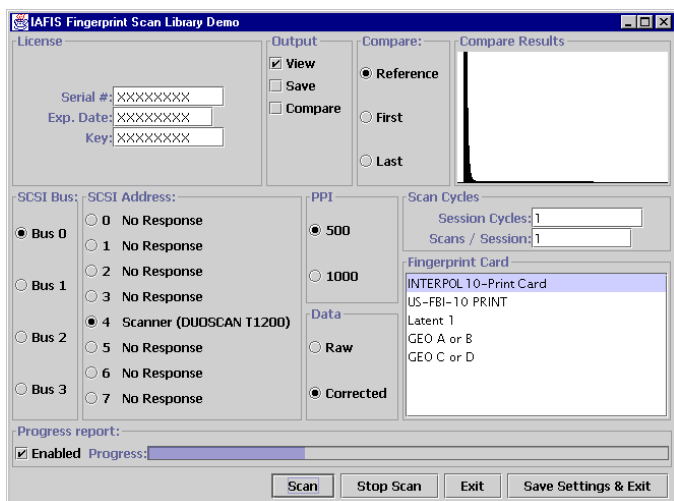## Supports custom requirements & multiple platform/scanner choices

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 is also included to support non-U.S. cards or for custom applications.

The Toolkit's shared object library has a 'C' interface that can be used to carry out IAFIS-compliant scanning functions. Java™ bindings are also included for those who want to create a Java interface. These options allow you to easily integrate a consistent fingerprint scanning interface within larger turnkey systems -- including UNIX®, Windows and Java 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.

Complementary products

Maintenance & Support:
To keep pace with the latest platform versions and scanner models, Mentalix plans to release regular updates for this Toolkit. Two levels of support are available on an annual basis. A maintenance contract entitles the holder to unlimited technical support and automatic maintenance releases for the duration of the contract. Maintenance releases (designated by the minor identifier to the right of version number decimal point) consist of

The Toolkit includes 'C' sample programs and a GUI demo program (above). These simplify integration and serve as examples of the parameters an end-user interface may include. The demo program may also be used to verify proper installation and operation of the software as well as perform consistency checks and hardware reliability tests.

minor feature enhancements and scanner/platform support updates, which may include re-certification of certain scanning devices as needed. The next level, a product subscription, includes all the benefits of a maintenance contract plus major upgrades (designated by the major identifier to the left of version number decimal point). Major upgrades may include significant feature additions such as support for newly certified scanner/platform modules. Our engineering team also provides consulting services to help you meet more specialized requirements, such as IAFIS certification for a new scanner model.

Fingerprint Utility API Toolkit™:
To reduce the need for frequent re-certification, the Fingerprint Scan API Toolkit necessarily includes minimal scanning functions. However, you can access supplementary capabilities with our add-on Fingerprint Utility API Toolkit, which integrates smoothly with the Fingerprint Scan API Toolkit. The 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. The Fingerprint Utility API Toolkit also includes image analysis routines that fully automate the Fingerprint Scan API Toolkit's overscan function.

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 associated with suspect records.

Feature Summary

Certified Runtime Library Module Highlights:
- IAFIS-certified modules based on scanner/platform combination
- Unmatched PRICE/PERFORMANCE level: The Agfa DuoScan T1200 module offers 30-second, 10-print card scanning speed at an estimated $2,200 (quantity one price) -- including the scanner
- A "software only" solution, not tied to proprietary hardware
- Enables image acquisition with off-the-shelf scanning devices
- Supports several UNIX platforms, Windows and Java, as well as multi-platform systems
- Provides a uniform scan interface across multiple platforms
- One-piece DLL or shared object library module designed for ease of use and quick updates
- "Drop in" upgrades allow you to leverage scanning technology advances quickly
- Streamlined library modules 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 scanning and image correction
- Piecewise acquisition and processing of corrected image data
- Interactive progress reporting displays scan status
- Scan abort function allows user to stop a scan before completion

Supplementary Tools to Simplify Integration Process:
- Sample 'C' programs for ease of use
- Overscan function eliminates the need for precise positioning of the fingerprint card on the scanbed, enabling fast, high-quality image acquisition in a single operation
- Java-based, GUI demonstration program with image viewing and file export capabilities
- Demo program can be used to verify proper installation and software operation as well as 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 the same card multiple times for performance testing
  - Selectable scanning resolution:
    - 500 ppi for fingerprint cards
    - 1000 ppi for latent prints
  - User specification of fingerprint card layout (e.g., for custom international fingerprint cards)
  - 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 to compare results from multiple scans of a single card and check consistency
  - Save scan settings for future use
  - When viewing scanned image, options include:
    - Zoom in/out
    - Flip/Rotate
    - Print
    - Export
    - Convert image to a different file format

Fingerprint Scan API Toolkit™

Scanner/Platform Support

	PLATFORMS			
	Windows 95/98/NT	SUN Solaris 2.5.1/2.6/7	HP-UX 10.20/11	IBM AIX 4.2/4.3
SCANNERS				
Agfa DuoScan T1200	F5, 2.0	NC, 2.1	NC, 2.1	F5, 1.1
HP ScanJet 6200C	NC, 2.1	NC, 2.1	NC, 2.1	NC, 2.1
Microtek ScanMaker 5	F5, 1.0	NC, 2.1	NC, 2.1	F5, 1.1
UMAX PowerLook 2000	NC, 2.1	NC, 2.1	NC, 2.1	NC, 2.1
UMAX PowerLook III	F5 & F1K, 1.0	NC, 2.1	NC, 2.1	NC, 2.1

<u>**KEY:**</u>

Chart shows certification status and certified software version.

<u>**Certification status definitions:**</u>

F5 = Certified for FBI IQS Appendix F, 500 ppi

F1K = Certified for FBI IQS Appendix F, 1000 ppi

NC = Non-certified support

<u>Notes:</u>

1. All Mentalix supported scanners are connected through SCSI.