

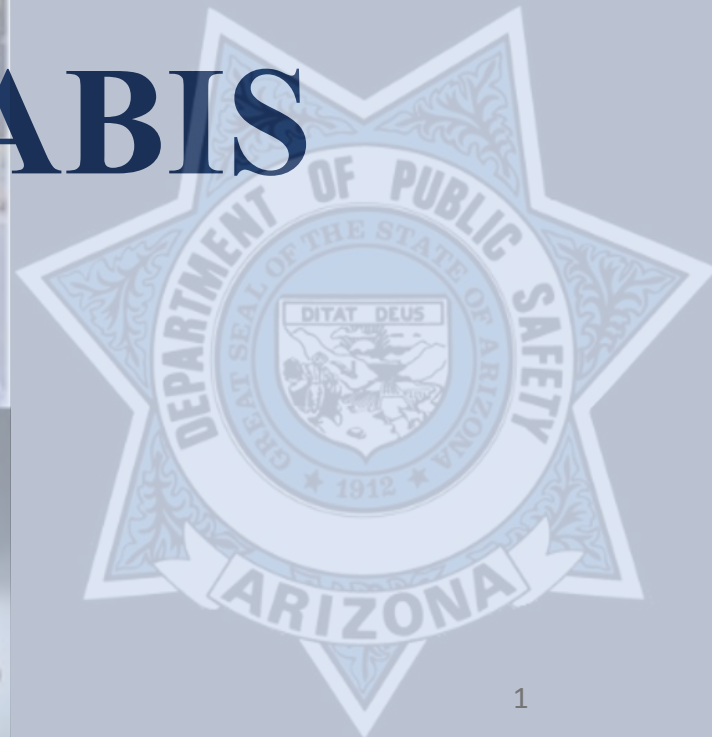


Arizona Department of Public Safety



AZAFIS Upgrade to ABIS

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Introductions

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Purpose

To upgrade the existing Arizona Automated Fingerprint Identification System (AZAFIS) into the next generation of biometric systems. The new system will enhance identification services, providing the latest in fingerprint, iris and facial recognition search and matching algorithms.

To upgrade the system into a cloud-based environment in compliance with the Arizona Department of Administration's Cloud-First Policy.

To provide a system with enhancements to workflow automations that the current system does not provide, thereby decreasing manual processes, human data entry errors, and other non-value added tasks.

What is the Arizona Automated Fingerprint Identification System (AZAFIS)?

- Pursuant to A.R.S. § 41-1750(A)(11), the Arizona Department of Public Safety (AZDPS) is required to operate and maintain the AZAFIS.
- This shared statewide computerized system is used to positively identify criminals and other individuals through technical searches of fingerprints against fingerprint images stored in computerized databases.
- Fingerprint records searched against the AZAFIS databases come from a variety of sources: arrestees booked into jails, criminal suspects, registered sex offenders, adjudicated juvenile offenders, deceased persons, civil offenders, employment and licensing applicants, Arizona Department of Corrections inmates, etc.

What is the Arizona Automated Fingerprint Identification System (AZAFIS)? (Cont.)

- Includes the Morpho Face Examiner (MFE), a facial recognition system currently used by the Arizona Counter-Terrorism Information Center (ACTIC) to aid in the detection, investigation and apprehension of criminal activity.
- Includes a repository of mug photos, currently used for criminal justice identification purposes and to populate the MFE to aid in facial recognition investigations.

Project Information

- AZDPS met with members of the Arizona Department of Administration (ADOA) Arizona Strategic Enterprise Technology (ASET) and determined the need for the an upgraded biometric information system into a cloud-based environment to meet the requirements of the Cloud-First Policy.
- Conducted meetings with AZDPS personnel, and representatives from other AZAFIS user agencies regarding system needs/enhancements.
- With more information sharing and additional biometric modalities incorporated, the system name will be changed to the **Arizona Biometric Information System (ABIS)**.



Project Information (Cont.)

- Initiated a Task Order process with all biometric vendors currently on the Arizona State Biometric Products and Services Contract.
- Evaluated all vendor responses to the Task Order and determined the Idemia MorphoBIS Cloud-based solution meets the needs and requirements of the project.



Proposed Solution

- AZDPS will purchase, configure and install an upgraded version of the MorphoBIS to serve as the ABIS.
 - MorphoBIS product – latest version of product used in AZ today.
 - New biometric modalities – major case prints, iris, Rapid DNA – programs offered by the Criminal Justice Information Center (CJIS) at the FBI
 - Latest algorithms for fingerprints and facial recognition
 - **Evergreen solution** – included in cloud service. Major upgrades will occur automatically every 18-24 months. This is a significant change from prior system upgrades which only saw technology refreshed every 7-9 years.
 - Interoperability functionality – allows ABIS to communicate with other States' biometric systems (i.e. New Mexico, Colorado).

Proposed Solution (Cont.)

- AZDPS will purchase, configure and install an upgraded version of the MorphoBIS to serve as the ABIS.
 - Upgraded, integrated facial recognition system. In addition to searching criminal mug photos, the upgrade will have enhanced capabilities to search Missing and Exploited Children and Motor Vehicle Department photos.
 - Throughput and database increases to accommodate a five-year growth in record storage and biometric matching capabilities.
 - Disaster recovery included in the cloud hosting solution.

Proposed Solution (Cont.)

- AZDPS will purchase, configure and install an upgraded version of the MorphoBIS to serve as the ABIS.
 - Latest fingerprint and facial recognition matching algorithms for improved identifications
 - ✓ Enhances officer safety – mobile identification technology for fingerprints and face searches will benefit from improved matching algorithms, providing officers more accurate and expedited identifications and information on the subjects they encounter.
 - ✓ Enhances public safety – improved matching algorithms will provide more accurate identifications on applicant fingerprint records, providing DPS and other State agencies the information they need in their non-criminal justice suitability determinations.

Benefits of Additional Biometrics – Major Case Prints

- These are supplemental prints from tenprints and palm prints captured at time of booking. They provide additional friction ridge detail the tenprint and palm prints do not capture. Crime Labs and Latent Experts use major case prints throughout the state to solve crimes.

Palms in Current System



Palms and Major Case
in Upgraded ABIS



Major case prints will be searchable against unsolved latents in the ABIS.

Benefits of Additional Biometrics – Iris

- Iris is another identification method.
- Faster identifications – 2 seconds on average with FBI's Iris Recognition program
 - Can supplement or sometimes replace fingerprint identifications (i.e. fingerprints not available)
- Rapid IDs useful for high traffic/volume facilities (Dept. of Corrections)



Benefits of Additional Biometrics – Rapid DNA

- DNA Swabs are collected at booking station and submitted through Rapid Instrument, eliminating need to mail collections to AZDPS Crime Lab.
- Rapid Instrument processes data and electronically submits to both State and FBI Combined DNA Index Systems (CODIS)
- **AZ is one of five states involved in the Rapid DNA Booking Station Pilot with FBI.**
- How will ABIS help with Rapid DNA?
 - By providing a complete automated workflow for the identification process
 - Saves the booking officers time
 - Eliminates human error in manual entries of identification information
 - Provides an automated reporting and tracking method on the efficiency of the Rapid DNA booking station process.

Workflow Enhancements

- To reduce manual processes through automation, reducing human errors and decreasing non-value added workflow tasks.
- Examples:
 - Sex Offender Registrants and Arizona Department of Corrections (ADC) Inmates
 - Current process requires staff to research every fingerprint records and compare against the Arizona Computerized Criminal History (ACCH) Database.
 - Requires hours of research into AZAFIS and ACCH for hundreds of records submitted weekly.
 - New process will automate this, having the ABIS automatically compare arrest information against the charges for which the inmates were incarcerated and offenders required to be registered.

Workflow Enhancements (Cont.)

- To reduce manual processes through automation, reducing human errors and decreasing non-value added workflow tasks.
- Examples:
 - Record Consolidations
 - Current process requires staff to research every consolidation provided by the FBI.
 - Manual report generated daily
 - Records are retrieved manually and compared, followed by a consolidation in AZAFIS and ACCH.
 - FBI mandates consolidations are completed within 2 days.
 - New process will automate this, having the ABIS automatically send the consolidation request from the FBI to ABIS and having the records ready for an operator to compare and consolidate.

Workflow Enhancements (Cont.)

- To reduce manual processes through automation, reducing human errors and decreasing non-value added workflow tasks.
- Examples:
 - Arrest Corrections
 - Current process requires staff to manually enter the same corrections made in ACCH.
 - Duplicate work performed
 - Requires arrest correction forms to go back and forth between two units at DPS (Criminal History Records Unit and the Biometrics Identification Unit (BIU))
 - New process will automate this; corrections performed in ACCH will automatically update in ABIS, reducing the amount of time BIU staff spend on processing arrests corrections to 0.

Workflow Enhancements (Cont.)

- To reduce manual processes through automation, reducing human errors and decreasing non-value added workflow tasks.
- Examples:
 - Fusion Scores
 - Current process compares against fingerprints alone.
 - A match currently automates many of the records through a process called “Lights Out” where human intervention is not needed in the identification process.
 - The problem arises if the wrong person was fingerprinted, the current system has no mechanism for catching this.
 - New process will provide fusion scores; a combination of multiple biometrics to ascertain the person’s identity (i.e. fingerprints with face, iris, or name searches), allowing an operator to check the record before it erroneously updates ABIS, ACCH, and the FBI systems.

Costs

- No additional funding needed
- AZAFIS portion of Forensics Fund and Applicant Clearance Card Fund will pay for Year One.
- AZAFIS portion of Forensics Fund will pay for Years 2-6 maintenance, license and cloud hosting.
- Maintenance costs increase annually at contracted rates.
- Licenses and cloud hosting increase to account for annual increases in record storage and matching capabilities.

Year 1	Annual Costs
System Design, Development, Testing and Implementation	\$1,175,510
Cloud Hosting	\$167,050
Year 2	
MBIS Licenses, Cloud Hosting and Maintenance	\$1,400,191.70
Year 3	
MBIS Licenses, Cloud Hosting and Maintenance	\$1,446,476.03
Year 4	
MBIS Licenses, Cloud Hosting and Maintenance	\$1,500,488.28
Year 5	
MBIS Licenses, Cloud Hosting and Maintenance	\$1,555,456.61
Year 6	
MBIS Licenses, Cloud Hosting and Maintenance	\$1,606,578.86

Cost Comparison

- A comparison of projected costs to maintain the current AZAFIS over upgrading to the Cloud ABIS

Year #	Current AZAFIS	Upgraded Cloud ABIS	Estimated Savings
1	\$2,005,755.49	\$1,342,560.00	\$663,195.49
2	\$2,095,809.56	\$1,400,191.70	\$695,617.86
3	\$2,190,366.33	\$1,446,476.03	\$743,890.30
4	\$2,289,650.94	\$1,500,488.28	\$789,162.66
5	\$2,393,899.78	\$1,555,456.61	\$838,443.17
6	\$2,503,361.06	\$1,606,578.86	\$896,782.20
Total Estimated Savings			\$4,627,091.67

Project Timeline

- ❖ 15 month timeline from project kick-off to system acceptance

Task	Responsible Party	Start	End
Planning and Design	DPS and Idemia	3/26/2020	8/5/2020
Detail Design, Transition and Acceptance	DPS and Idemia	4/17/2020	9/10/2020
Programming and Integration	Idemia	4/25/2020	11/14/2020
Data Migration	Idemia	6/18/2020	6/22/2021
Factory Acceptance Testing	DPS and Idemia	11/15/2020	1/15/2021
Deployment	Idemia	12/28/2020	5/3/2021
Site Acceptance Testing	DPS and Idemia	3/15/2021	4/23/2021
Training	Idemia	4/24/2021	5/9/2021
Go-Live	DPS and Idemia	5/19/2021	6/8/2021
User Acceptance Testing	DPS	6/1/2021	6/22/2021
System Acceptance; Begin Maintenance Support	DPS and Idemia	6/23/2021	6/26/2021

Risk Mitigation



- Fixed price contract – includes Arizona Customization.
- Weekly project status meetings between vendor and AZDPS.
- Fourth AZAFIS upgrade with same vendor.
- Existing system will remain operational and maintained by vendor until project has been completed and fully tested.
- Idemia engineers will be on-site for testing, go-live and to resolve any post implementation issues.
- Project management from both vendor and AZDPS

Measures of Success

- Improved matching capability; more records will be identified through the ABIS without human intervention.
 - Increase record automation processing goal for applicant processing from the current 77% to 90%.
 - Increase record automation processing goal for criminal processing from 71% to 90%.
- Decreased time and non-value added tasks for processing consolidations requested from the FBI.
 - Decrease processing time from the current average of 24 hours to less than 2 hours.
- Decreased time and non-value added tasks for completing correction of arrests in ABIS.
 - Decrease the accumulative time AZDPS BIU staff spend on arrest corrections each month from 100-125 hours to 0 hours (the new system will automate this process).

Questions?

