

"A challenging but successful project... an example of good teamwork."

— Larry Norris,
Director, ADC

Arkansas Department of Correction Implements Biometric Based “Facility Access Control”

Date Published: April, 2008

Summary

As with every correctional agency, the Arkansas Department of Correction (ADC) must carefully screen every person entering or exiting its facilities to ensure staff and public safety. To that end, the ADC began developing a biometric based solution for deployment at all facility entry/exit points to verify the identity of staff, visitors, vendors, volunteers and inmates as they enter or exit.

Utilizing a phased approach, ADC teamed with two vendors to design, develop and deploy a new integrated application to manage all entry/exit in ADC facilities.

ADC Profile

The Arkansas Department of Correction is comprised of over 3,700 staff managing 13,000 inmates housed in twenty correctional facilities. As the agency continually increased capacity, ADC leadership realized that investing in new integrated biometric technology would enable the agency to continue safely managing persons entering/exiting its facilities.

As with correctional agencies throughout the country, the ADC faced multiple challenges; increasing capacity needs, staff training challenges, and increasing challenges to its security.

“Our goal was to improve security and the process and we succeeded.”

Larry May, Deputy Director, ADC

Problem

Context

The ADC has historically provided leadership in the state corrections arena through effective use of technology. As one of the early adopters of enterprise corrections software in the 1980’s, the ADC leveraged the power of system integration throughout the agency. Ultimately, the ADC installed Marquis Software’s integrated eOMIS corrections COTS package in 2001. The eOMIS application provided for the recording and tracking of people entering and exiting a facility but did not support biometric functionality.

Objectives

The challenge for ADC was to improve security of the agency’s secure correctional facilities by integrating biometric technology to manage the entry/exit of all persons in ADC facilities. The solution would need to:

- provide an easy and quick biometric enrollment process
- provide enhanced identification and tracking functionality
- take no additional time or speed up the entry/exit of enrolled persons
- integrate with ADC’s existing enterprise eOMIS application.

The ADC selected Marquis Software Development, Inc (Marquis) of Tallahassee, Florida to develop the software application/integration and the Biometric Access Corporation (BAC) of Round Rock, Texas to provide the biometric solution.

Finding the Right Partners

ADC selected Marquis Software based upon:

- successful history developing integrated corrections software



“An elegant and functional application and solution...”

**—Kathy Gattin,
Applications
Administrator, ADC**

- industry leading software design
- robust application functionality
- historical commitment to customers and project success

ADC selected Biometric Access Corporation based upon:

- a solid, proven history in the biometric identity field
- strong development background
- significant nationwide device deployment with multiple customers
- history of strong customer support

Solution

Process

After executive approval of the project, Deputy Director Larry May assumed leadership of a multidiscipline committee of staff from management, security, information technology, human resources, construction and facility wardens while Kathy Gattin, ADC Systems Development Administrator, provided project coordination.

Several sub-committees were established to provide additional oversight and coordination:

- Security
- Construction
- Policy
- Technology
- Training

Initially, agency personnel researched biometric technologies to determine the best biometric solution. After extensive research, fingerprint biometric technology was determined to be the best fit for gathering and validating biometric information about persons accessing the facility. Biometric Access Company's STAm device was selected as preferred biometric solution for the following reasons:

- Ease of use
- Unobtrusiveness
- Robustness of the STAm device
- Perception by the people using the biometric device
- Cost
- Physical device size
- Speed of biometric identification
- Integrated design of the unit (biometric reader, magnetic stripe scanner, bar code reader, color camera, keypad and information screen)

In partnership with their software vendor, the ADC committee began defining required functionality and outlined a phased deployment schedule, with inmate visitors selected as the first phase.

Phased Development

The project was broken down into the following phases to streamline the software development as well as mitigate effects on staff implementing the phases:

- Visitors
- Staff

-
- Vendors
 - Volunteers
 - Inmates

The ADC Visitation policy was issued with the following revisions:

- All persons entering the facility for visitation are required to submit a visitation questionnaire, regardless of age
- Visitors 12 years of age or older are required to present government issued identification and be biometrically enrolled for identify verification
- All persons entering, regardless of age, will be photographed during the initial enrollment process

Next, ADC committee members and representatives from Marquis conducted JAD sessions to identify the requirements for each phase. Marquis and BAC worked together in designing the interface between the STAm device and eOMIS. Upon completion of the interface and initial phase of the eOMIS module, Marquis presented the application to the full committee.

Once the design for a phase was completed, the software was developed and then tested by ADC staff. Once the testing was completed, the software and hardware was deployed to one or more pilot facilities for field testing.

Each phase impacted the following ADC staff:

- IT staff installed/tested network/hardware infrastructure
- Construction staff renovated entrance buildings
- ADC eOMIS staff trained staff and provided on-site support
- Facility security managers coordinated staffing requirements

- Facility security staff attended training

Additionally, each of the phases impacted persons entering and exiting the facility. Each person accessing a facility goes through an initial enrollment before admission involving gathering biometric fingerprints, an electronic photo, and a form of valid state identification.

Implementation

Upon committee approval, a pilot test for the initial visitation phase was scheduled at two ADC facilities, Delta Regional Unit and Varner /Varner Supermax Unit. Wardens Mark Cashion of Delta Regional and Grant Harris of Varner/Varner Supermax coordinated support for equipment installation, entrance building set-up, staff training and provided extensive executive support to the pilot.

During the initial four weekends of the visitation pilot, on-site support was provided at Delta Regional and Varner/Varner Supermax by:

- Central Office senior management
- Central Office eOMIS team members
- Central Office IT staff
- Marquis Software staff

Critical Success Factors contributing to the projects success included:

- Executive staff support
- A committed multidiscipline project team
- Warden and facility staff commitment
- Vendor commitment and support

- Regular status communication to staff and others
- Extensive on-site training and support

As of this date, the visitation phase is pending full agency deployment and the staff phase design is complete and will begin pilot by May, 2008. Additional phases are under design and will be piloted and deployed through the remainder of 2008.

Technologies and Delivery Method

The software application developed for this project consisted of an additional integrated module in the Marquis eOMIS COTS package integrated with the BAC SecureTouch Advanced Modular (STAm) biometric device.

Key Components

Technology used on this project includes:

Software

- IBM Websphere Application Server
- IBM DB2
- Microsoft Visual Studio .NET 2008
- Third party tools: Biometric Access Company STAm SDK, Positive Access Company IDecoder.NET

Hardware

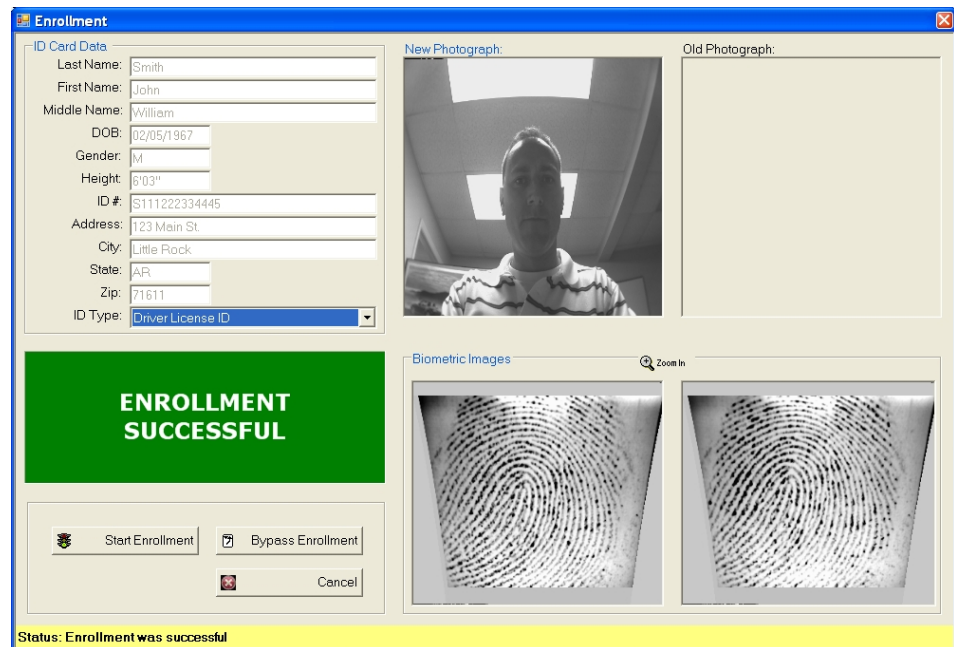
- Biometric Access Company STAm Biometric Device
- Dell Slim Tower PC
- Dell Laser Printer

Graphics

Biometric Access Corporation SecureTouch Advanced Modular (STAm) device:



Screen shot of eOMIS FAC application during initial enrollment process:



The screenshot shows the 'Enrollment' window of the eOMIS FAC application. The window is titled 'Enrollment' and contains the following elements:

- ID Card Data:** A form with fields for Last Name (Smith), First Name (John), Middle Name (William), DOB (02/05/1967), Gender (M), Height (6'03"), ID # (S111222334445), Address (123 Main St), City (Little Rock), State (AR), Zip (71611), and ID Type (Driver License ID).
- New Photograph:** A small window showing a photograph of a man.
- Old Photograph:** A small window that is currently empty.
- Biometric Images:** Two windows showing fingerprint images. The left window shows a fingerprint being scanned, and the right window shows a completed fingerprint image. A 'Zoom In' button is visible between the two windows.
- ENROLLMENT SUCCESSFUL:** A large green banner with white text indicating the enrollment was successful.
- Buttons:** 'Start Enrollment', 'Bypass Enrollment', and 'Cancel' buttons are located at the bottom left.
- Status:** A yellow banner at the bottom of the window reads 'Status: Enrollment was successful'.

"Its quicker, it's easier and visitors like it."

— **Grant Harris,**
**Warden, Varner/
Varner Supermax**

Evaluation

Results and Benefits

For the first time in any ADC institution, the new biometric application provided real-time identify verification for visitors entering or exiting an institution. Combining an initial enrollment process using verified government identification with subsequent rapid identification and tracking for entry/exit, the application provides a quick and reliable method of identification.

With entry/exit screening time now less than the original manual process, staff envisions a steady decrease in processing time as visitors become more familiar with the new system.

With the corresponding increase in identification security and automated tracking capability, ADC management, wardens and line staff clearly see a win-win for the agency; staff are using technology to increase accuracy in the screening process while visitors are able to bypass delays and speed up entry/exit.

Lessons learned

The positive aspects of this new endeavor include:

- Increased reliability of identification (biometric and photograph)
- Availability of cross referencing and validation of visitation restrictions real-time in the eOMIS database
- Decreased time to process visitors
- Improved reporting and statistical analysis
- Real-time, up to the second count and status of visitors in a facility

Challenges and lessons learned during the project:

-
- Challenge: Training of staff in use of new software integrated with a biometric device
 - √ Solution: We realized during pilot that it was critical to continually improve software intuitiveness and ease of use
 - Challenge: Staff utilizing an integrated biometric device for identification
 - √ Solution: Increased hands-on training in process, included successful techniques of biometric processing and ensured just-in-time training prior to deployment
 - Challenge: Initial enrollment process exacerbates visitor process due to required additional time and effort
 - √ Solution: Initiate the enrollment process for additional facilities coming on-line prior to actual deployment of entry/exit processing in new application
 - Challenge: Visitors required to utilize a new biometric based visitation screening process
 - √ Solution: Communicate upcoming changes to visitors well prior to implementation, provide written notice of revised process, provide additional assistance during initial deployment phase and have staff engage visitors to assist

Correctional agencies and facilities looking to utilize a biometric based entry/exit screening process will see a much improved and effective process. Utilizing an integrated database coupled with biometric screening is a powerful tool for institutional security by confirming the eligibility and status of persons entering or exiting a correctional facility.

As always, there are challenges to any IT project, but with planning, integrating security management and technology can provide dividends.



Arkansas Department of Correction
P.O. Box 8707
Pine Bluff, AR 71611

Date: April 7, 2008

For More Information

www.state.ar.us/doc/

Kathy Gattin, Systems Development Administrator

Arkansas Department of Correction

(870) 850-8530

kathy.gattin@arkansas.gov