# Nomination Form

*Please complete entire form. All nominations must be postmarked no later than May 18, 2003.*


Title of Nomination:  **Using Biometrics to improve the Texas Welfare System**


Project/System Manager:   Virginia Booton
Job Title:          Lone Star Technology Department Director
Agency:             Texas Department of Human Services
Department: Lone Star Technology Department Y-980
Address:          P.O. Box 149030
City:               Austin
State:              Texas
Zip:                78714-9030
Phone:              512-231-5809
Fax:                512-231-5771
Email:              ginny.booton@dhs.state.tx.us


Category for judging (please list only one): **Innovative Use of Technology**


Person Nominating:   Carolyn T. Purcell
Job Title:          Executive Director & CIO, Texas Department of Information Resources
Address:          300 West 15th St., Suite 1300
City:               Austin
State:              TX
Zip:                78701
Phone:              512-475-4759
Fax:                512-475-4759
Email:              Carolyn.Purcell@dir.state.tx.us


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2003 NASCIO Recognition Awards Application

*Innovative Use of Technology Category*

# TEXAS LONE STAR IMAGE SYSTEM

## USING BIOMETRICS TO IMPROVE THE TEXAS WELFARE SYSTEM

**State of Texas**

**Department of Human Services**

**Austin, Texas**

# Executive Summary

A critical component to any government entitlement program is integrity. Integrity of government programs like welfare is something that most acknowledge needs to be addressed, but few have been able to successfully accomplish. If it could be implemented, integrity within these types of programs could immediately save tremendous amounts of Federal, State and taxpayer money, as well as increase public confidence in assistance programs by greatly reducing and deterring program fraud. In addition, if a particular approach proved successful, that methodology could likely become a lynch-pin for expansion into virtually any other public assistance program (i.e. Medicaid, EBT, etc.); saving Texas and its taxpayers millions of additional tax dollars annually.

The Texas Department of Human Services (TDHS) accepted this challenge and soon began in-depth research for a solution. They soon realized that in order to truly provide integrity within the Texas welfare system, a mechanism had to be implemented that could quickly identify applicants / recipients with a 99% or greater accuracy rate, be user friendly, non–intrusive for the applicants, and of course cost effective. It was also determined that this system would need to be implemented within the front-end enrollment process in order to be truly effective and to insure integrity throughout the system.

After an exhaustive technology search TDHS determined that the only proven identification technology available that could provide the necessary level of identification technology was fingerprint biometrics in the form of a Civil AFIS (Automated Finger-image Identification System). While this idea was very progressive to the public benefits arena, fingerprint biometrics had been used globally for decades to positively identify individuals. There is no other technology available that has been proven more effective in accurately identifying individuals on a very large scale (over 1 million individuals).

So in 1995, the 74th Texas Legislature passed House Bill 1863, which allowed for the implementation of fingerprint biometrics within the Texas welfare system. In response to House Bill 1863, TDHS developed the Lone Star Image System (LSIS) in order to implement fingerprint biometrics and the Civil AFIS system within the Texas Welfare Program. LSIS is a comprehensive automated system that obtains, transmits, and matches finger images of the right and left index fingers of TDHS benefit recipients (clients). Today, the LSIS finger imaging policy applies to applicants and recipients of food stamps and TANF benefits.

After the successful extended pilot, statewide implementation and the hardware deployment to nearly 400 offices around Texas was completed in August 1999. The project has continued to prove itself successful by providing cost savings of *$11 million per year* by preventing duplicate participation within the welfare system. This is accomplished by comparing the electronic finger images that are on file in the LSIS database (currently over 1.2 million people) and detecting any finger image matches from new applicants. Potential applicants for assistance are informed about finger imaging requirements prior to the applying. This greatly helps *deter* people from attempting to receive duplicate benefits – since they know the finger imaging technology is in place.

Because of its proven effectiveness in fraud prevention and fraud deterrence, LSIS benefits the agency by saving money, and increasing the validity of Food Stamp and TANF cases. It also has value to the clients/recipients as it protects them from another person fraudulently assuming their identity and receiving assistance in their name. It also benefits the State by improving the public perception of the Food Stamp and TANF programs and it's recipients.

The Lone Star Technology Department (LSTD) staff is also exploring the possibility of partnering with other states to further increase the programs effectiveness and to reduce the finger imaging contract costs. Partnering with bordering states would *alleviate* the potential for fraud of individuals that illegally receive benefits in multiple states (cross border fraud). There have also been discussions to use finger imaging with POS terminals – which would insure that that identity of the person using the Lone Star Card and receiving the benefits is indeed the same person that originally enrolled and was granted the benefits. This would greatly reduce or completely prevent the "trafficking" of the Lone Star Card.

The current Texas Administration is also looking at the LSIS finger imaging system as a way to significantly reduce "Provider Fraud" within the Texas Medicaid system. $1.2 Billion in Food Stamp benefits were distributed in FY 99. In contrast the Texas Medicaid system costs $14 Billion, FY 02. As such reducing fraud within the Medicaid system has received significant attention in light of one of the worst budget shortfalls in Texas history.

# Justification Section:

## A. Description of Project

### Background
The Texas Department of Human Services (TDHS) was seeking an accurate, reliable, quick, and unobtrusive method to ensure that clients do not receive duplicate benefits.  Standard forms of identification such as birth certificates, driver's license and Social Security cards are easily falsified, allowing unscrupulous persons to obtain multiple benefits under two or more names. This not only diverts public funds to people not entitled to receive them, but also reduces the funds available for the truly needy.  The solution to this problem lies in biometric identification based on physical characteristics unique to each person, and virtually impossible to falsify. The most fully developed, proven and widely used biometric technology is *finger imaging*. This is the technology that Sagem Morpho has specialized in for the last twenty years and the technology and vendor that TDHS selected for the Lone Star Image System.

### The Purpose of using Biometrics
Finger biometrics are the best means to establish positive identification of an individual applying for Public Benefits, and to preclude an individual's duplicate participation in Public Benefit programs.  The use of finger print biometrics establishes a client's identity, verifies an identity and compares that identity against the enrolled population to duplicate enrollments.

### How the Process Works
The enrollment process is quick and uncomplicated. The client places his or her index fingers one at a time onto the glass platen of the finger scanning device.  The fingers are scanned and the images are transmitted to the workstation. The workstation software conducts a real-time quality check and immediately notifies the operator via screen cues of any problems that might affect image quality (e.g., too little pressure, too much pressure, off-center image, or indistinct ridges). After acceptable images have been captured, the workstation software digitizes the images and analyzes them to detect the unique points of identification called "*minutiae*".

A digital camera captures the client's photo image and the workstation operator enters the appropriate demographic data from the keyboard or downloads the information from the TDHS mainframe. When the acquisition is complete, the operator presses a key and transmits the images and demographic data to the central site. There, the matching subsystem compares the images to those in the LSIS database and records the "match" or "no match" notification.

### If a Match is Found
In the event of a "match" indication, suggesting a duplicate enrollment, this information is immediately sent by the system to a Sagem Morpho minutia expert for a side-by-side, on-screen display analysis and expert verification.  Following verification, a Texas Works Advisor researches the match to determine why it occurred. For example, the person may have moved out of one Food Stamp or TANF household and established his or her own household, but the local office was not notified. If the match indicates potential fraud, the case is referred to the TDHS Fraud Investigations Unit for further processing.  The color photo and descriptive information corresponding to the matched finger images are also available to the investigator as a secondary means of identification.

The system also verifies the client's identity for benefit re-certification.  As long as a client attempts to enroll only once, it does not matter to the system what name the person chooses to use.  Since fingerprints do not change, it is a better method than social security number or name searches to protect public funds from abuse.

The LSIS is a critical step in the eligibility determination process for TANF and Food Stamp benefits. All adults and minor heads of households receiving Food Stamp benefits, as well as all adults and minor parents receiving TANF are required to be finger imaged.  When someone applies for benefits or is re-certified, all required household members must have their index fingers scanned and the system again checks the finger images against the master database for duplicate benefits.

## Recipient Privacy

Finger images are confidential and are not shared with anyone else, including other agencies (local, Texas, other states or federal) except for the investigation of people who may be receiving TANF or Food Stamp benefits on more than one case. As a fingerprint imaging system independent of any law enforcement integration or information transfer, the LSIS system does not exchange any data with any local, State or Federal law enforcement officials.

## Infrastructure

All data processing, fingerprint matching, data storage, system administration, help desk, minutia analysis and project management functions takes place at the Central Sagem Morpho site located in Austin, Texas.

The LSIS solution maximizes the use of COTS products where possible. The architecture is also modular and expandable as it incorporates object-oriented design, client-server architecture, industry standard software (UNIX, DOS, Windows, ORACLE, etc.), and workflow management. The system is designed to allow for seamless future expansion. The primary server hardware platform is based on IBM RS/6000's as it is particularly efficient in running programs written for AIX. All of the hardware and software operating at the central site is operated and managed in fault tolerant mode as it as a critical system, uptime is not compromised.

Each of the nearly 400 TDHS offices around the state are equipped with enrollment workstations that include a PC, a finger image scanner, a digital camera, and networking software for communication with the central processing site. The workstation software runs under Windows™, which provides users with the familiar, easy-to-use graphical interface.

## Quick Project Facts

- The Lone Star Image System (LSIS) is an automated system that captures the electronic finger images - right and left index fingers - of adults and minor heads of households who apply for or receive food stamps, and of adults and minor parents who apply for or receive TANF.
- Approximately 15 enrollments per enrollment workstation can be accomplished hourly.
- The Lone Star Image System was designed for the state of Texas by Sagem Morpho, according to strict contractual specifications developed by TDHS
- The system has a 99% or better accuracy rates. (1% or less false matches, positive and negative)
- The system includes 400 enrollment stations at 389 locations around the state.
- There are currently over 1.2 million individuals enrolled in the LSIS Finger imaging system.
- Minutiae analysis experts are contractually bound to make verifications within 5 minutes; however, transactions are typically turned around in about *45 seconds* from the time the data is transmitted from the TDHS office enrollment workstation.
- LSIS Project Website: http://www.dhs.state.tx.us/providers/LoneStar/LSIS/index.html
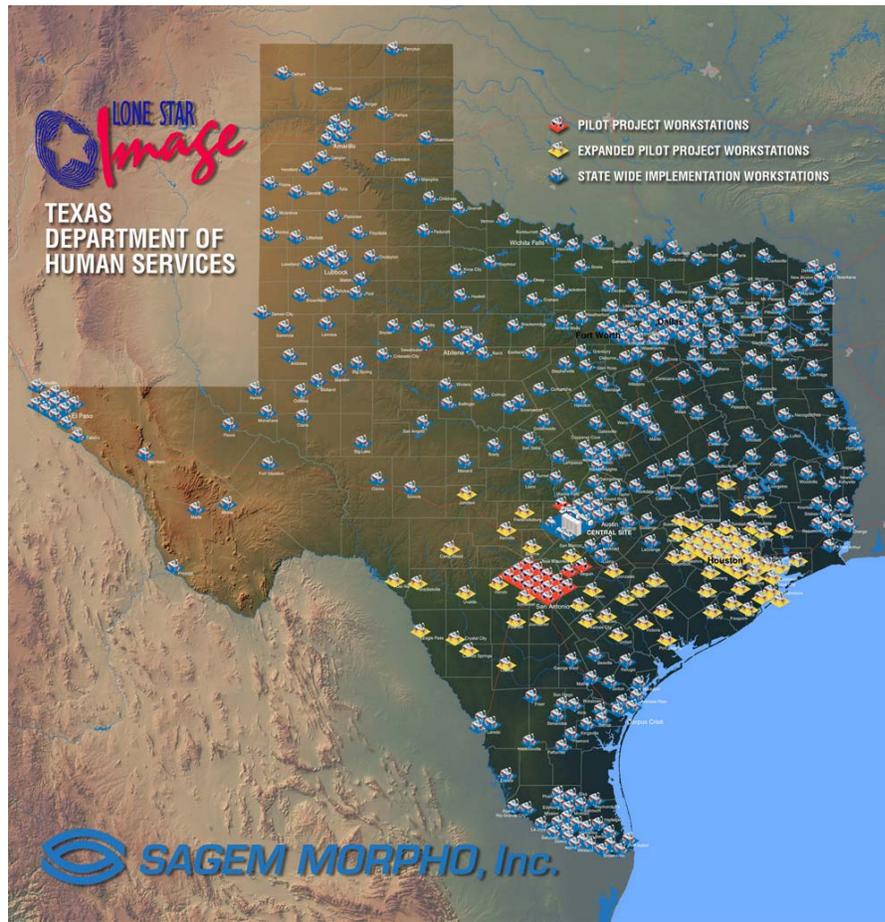
*Map of enrollment locations throughout Texas*

# B. Significance of the improvement

**Saves Texas and it's taxpayers money by increasing the efficiency/integrity of the welfare system:**
- Saves Texas an estimated $11 Million annually  (*see TDHS and USDA certified ROI in section D*)

**Increases public confidence in assistance programs:**
- Knowing that the State is taking technologically advanced and innovative approaches to conserve State resources and Taxpayer money, provides increased belief that benefits are really going to the truly needy

**Reduces fraud that stigmatizes those who participate in such programs:**
- Enhances public view that those receiving benefits are the truly needy individuals

**Deters fraudulent activity:**
- Applicants are notified of the finger imaging requirement before the enrollment process begins.  This notification *deters* unscrupulous recipients from attempting to register for duplicate benefits.  Since the system simply identifies whether an individual is already registered within the system there is a very high chance that those who do not follow through with their intended registration process - *because of finger imaging* – understand that they will be uncovered if they do.

- Prevents identity fraud within the Welfare system by preventing individuals from using alternative names and demographic data – since the system checks enrollment based on the finger image (which is virtually impossible to copy).

## Prevents duplicate participation in the Food Stamp and Temporary Assistance to Needy Families (TANF) programs:

- Finger Imaging identifies duplicate participants within the Welfare system with an accuracy of 99% or better, far greater than any other available technology – short of DNA matching, which would be extremely expensive, intrusive, time consuming, and not practical public assistance programs.

## Provides the framework for expansion into other programs like Medicaid, EBT, etc.:

- Finger imaging can be applied to virtually any public assistance program to realize increased program integrity and cost savings. Below are hypothetical examples for both Medicaid and EBT.

**Texas Medicaid** - Texas Medicaid costs for FY02 were over $14 Billion -  over 10X (times) that which the Texas Food Stamps and TANF program paid out in benefits in FY99.  As such, providing program integrity to Medicaid would most likely yield nothing other than stellar results.  Focusing on "Provider Fraud Reduction" – *the following has been estimated-*

**Benefit of Expanding Finger Imaging to Medicaid:**
FY02 Amount Texas spent on Medicaid was $14,269,608,618** http://www.bms.dhs.state.tx.us/Medicaid/histry19.xls

$14,269,608,618* x .94% (*same variable proven within Welfare*) = **[Est. Annual Savings $ 134 Million]**

**EBT** - Within the EBT environment, after the Food Stamp and TANF card has been issued. Finger imaging could be used at the Point of Sale (POS) to easily insure that the original approved recipients of benefits is indeed the same person that is redeeming the benefits at the local participating merchant store.  This would completely prevent the "trafficking of cards" and the fraudulent use of the Lone Star EBT card, increase the security of the card, and alleviate the user from having to remember a PIN #, as well as other benefits – all from simply biometrically verifying the identify of the actual person using the card.

# C.  Benefits realized

## What are the benefits for recipients / taxpayers?

- Protects confidentiality through an automated security system
- Mainstreams recipients into today's technology
- Saves taxpayers money by increasing the efficiency / integrity of the State welfare system
- Increases public confidence in assistance programs
- Reduces the fraud that stigmatizes those who participate in such programs
- Prevents duplicate participation in the Food Stamp and Temporary Assistance to Needy Families (TANF) programs.

## What are the benefits for the State and Federal Agencies?

- Saves Texas and Federal Gov money by increasing the efficiency / integrity of the welfare system
- Prevents duplicate program participation in the Food Stamp and TANF programs
- Ensures benefits are available for those who truly need them
- Reduces opportunity for identity fraud
- Increases government accountability
- Increases public confidence in Food Stamp and TANF programs
- Deters fraudulent activity and reduces opportunities for fraud within the system

# D. Return on investment, financial benefits

The LSIS has exhibited measurable ROI since its pilot phase in FY 1999 when it demonstrated a cost savings in 3 separate regions within Texas.  These calculations are very conservative and are certified by TDHS and the USDA/FNS.

Additionally, the costs of the program has _declined_ each year of the contract.  For instance, FY 01 and 02 total (combined) costs were *$7.22 million*, but FY 03 and 04 total cost (combined) will be *$5 million*.  Based on the FNS approved cost benefit analysis (CBA), fraud prevention due to finger imaging produces an estimated $11 million dollar savings in Food Stamp benefits each year. (*See cost benefit analysis and summary below*)


## Lone Star Image System (LSIS) At a Glance
LSIS Vendor:  SAGEM MORPHO, Inc. (http://www.morpho.com)
Number of clients (recipients) enrolled in LSIS database as of 10-02:  1,254,689.00

Cost of LSIS Pilot project (1996): **$1.7 million**

_Three-year_ initial contract pricing
- **FY 98** - $2.82 million,  **FY 99** - $4.98 million,  **FY 00** - $4.98 million = **Total: $12.78 million**

_Two, two-year_ optional contract extensions:
- **FY 01** - $3.61 million and **FY 02** - $3.61 million = **Total:  $ 7.22 million**
- **FY 03** - $2.5 million and **FY 04** - $2.5  million   = **Total:  $ 5. million**


## Lone Star Image System - Cost Benefit Analysis – Methodology Region (11)

TDHS case workers assign denial code "623" to cases where applicants are denied food stamp benefits solely because they, or required household member(s), did not provide finger images. These cases met all other eligibility requirements and would have been approved if the applicant or required household member(s) had provided finger images.  TDHS tallied all the cases designated as 623 denials in Region 11 (Rio Grande Valley area) for September 1999 and reviewed the cases 90 days later to determine if the cases remained inactive.  According to USDA/FNS, cases that remained inactive for at least 90 days could be counted as confirmed deterred cases attributed to finger imaging.

Using the above methodology, TDHS recorded 181 confirmed deterred cases attributed to finger imaging in Region 11 in September 1999.  This number was compared to the total new approved food stamp applications and approved food stamp re-certifications that were processed in Region 11 in September 1999 to estimate the rate of potential/probable duplicate participation in the food stamp program.

4,773 New Applications approved + 14,503 Re-certifications approved = Total of **19,276**  (181 / 19,276 = .0094 or .94% (94/100 of one percent)

Assuming that .94% represents rate of potential / probable duplicate participation (fraud) statewide, this rate is then applied to the total amount [$1,232,358,341.39] of Food Stamp benefits disbursed statewide in FY 99., arriving at an annual savings of **$11,584,168.41**          ($1,232,358,341.39  x  .94% = $11,584,168.41)

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**Cost Benefit Analysis Studies are published on the following TDHS Web site.**
**http://www.dhs.state.tx.us/providers/LoneStar/LSIS/LSISdownloads.html**

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