



C o u n t y o f S a n L u i s O b i s p o

General Services Agency

Janette D. Pell, General Services Agency Director

Helen McCann, Department Administrator

REQUEST FOR PROPOSAL PS-1050 AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

December 1, 2009

The County of San Luis Obispo is currently soliciting proposals for the purchase of an Automated Fingerprint Identification System (AFIS).

Each proposal shall specify each and every item as set forth in the attached specifications. Any and all exceptions must be clearly stated in the proposal. Failure to set forth any item in the specifications without taking exception may be grounds for rejection. The County of San Luis Obispo reserves the right to reject all proposals and to waive any informality.

If your firm is interested and qualified, please submit four (4) written copies of your proposal and (1) version on CD, by 3:00 p.m. on December 30, 2009 to:

County of San Luis Obispo
Phill Haley, GSA Purchasing
1087 Santa Rosa Street
San Luis Obispo, CA 93408

If you have any questions about the proposal process, please contact me. For technical questions and information contact John Means by email only at jmeans@co.slo.ca.us. Telephonic answers will not be processed.

PHILL HALEY
Buyer - Central Services Division

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

TO: ALL PROSPECTIVE PROPOSERS
SUBJECT: LOCAL PROPOSERS PREFERENCE

The County of San Luis Obispo has established a local vendor preference. All informal and formal Requests for Proposals for contracts will be evaluated with a 5% preference for local vendors. Note the following exceptions:

1. Those contracts which State Law or, other law or regulation precludes this local preference.
2. Public works construction projects.

A "local" vendor will be approved as such when, 1) It conducts business in an office with a physical location within the County of San Luis Obispo; 2) It holds a valid business license issued by the County or a city within the County; and 3) Business has been conducted in such a manner for not less than six (6) months prior to being able to receive the preference.

As of March 3, 1994 individual County Buyers evaluate RFP's (Request for Proposals) considering the local vendor preference described above. The burden of proof will lie with proposers relative to verification of "local" vendor preference. Should any questions arise, please contact a buyer at (805) 781-5200. All prospective proposers are encouraged to quote the lowest prices at which you can furnish the items or services listed in County proposals.

	YES	NO
Do you claim local vendor preference?		
Do you conduct business in an office with a physical location within the County of San Luis Obispo?		
Business Address: _____ _____		
Years at this Address: _____		
Does your business hold a valid business license issued by the County or a City within the County?		
Name of Local Agency which issued license: _____		

Business Name: _____

Authorized Individual: _____ Title: _____

Signature: _____ Dated: _____

PROPOSAL SUBMITTAL AND SELECTION

1. All proposals, consisting of four (4) written copies and 1 version on CD, must be received by mail, recognized carrier, or hand delivered no later 3:00 PM on December 30, 2009. Late proposals will not be considered.
2. All correspondence should be directed to:

San Luis Obispo County
General Services Agency-Purchasing
1087 Santa Rosa Street
San Luis Obispo, CA 93408
ATTENTION: Phill Haley
Telephone: 805-781-5904
3. Costs of preparation of proposals will be borne by the proposer.
4. It is preferred that all proposals be submitted on recycled paper, printed on two sides.
5. Selection of qualified proposers will be by an approved County procedure for awarding professional contracts.
6. This request does not constitute an offer of employment or to contract for services.
7. The County reserves the option to reject any or all proposals, wholly or in part, received by reason of this request.
8. The County reserves the option to retain all proposals, whether selected or rejected.
9. All proposals shall remain firm for 120 days following closing date for receipt of proposals.
10. The County reserves the right to award the contract to the firm who presents the proposal which in the judgment of the County, best accomplishes the desired results, and shall include, but not be limited to a consideration of the professional service fee.
11. Selection will be made on the basis of the proposals as submitted. The Selection Committee may deem it necessary to interview applicants. The County retains the right to interview applicants as part of the selection process.
12. The proceedings of the Selection Committee are confidential. Members of the Selection Committee are not to be contacted by the proposers. All communication between proposer and the County shall be through John Means via email at jmeans@co.slo.ca.us.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM**PROPOSAL FORMAT**

A qualifying proposal must address all of the following points:

1. Project Title
2. Applicant or Firm Name
3. Firm Qualifications
 - a. Type of organization, size, professional registration and affiliations.
 - b. Names and qualifications of personnel to be assigned to this project.
 - c. Outline of recent projects completed that are directly related to this project. Consultant is required to demonstrate specific design and project expertise relating to the requirements of the Project Scope.
 - d. Qualifications of consultants, subcontractors, or joint venture firm, if appropriate.
 - e. Client references from recent related projects, including name, address and phone number of individual to contact for referral.
4. Understanding of and Approach to the Project
 - a. Summary of approach to be taken.
 - b. Description of the organization and staffing to be used for the project.
 - c. Indication of information and participation the proposer will require from County staff.
 - d. Indication of time frame necessary to complete the plan review once a Notice to Proceed is issued.
5. Fees and Insurance
 - a. Propose total fixed fees to complete project as described under Project Scope.
 - b. The selected Company will be required to provide insurance coverage in the amount of \$1,000,000 for general liability.
 - c. The Company shall provide within five (5) days after the Notice of Award is issued a certificate of liability insurance naming the County of San Luis Obispo and its employees and officers as additionally named insured. This shall be maintained in full force and effect for the duration of the contract and must be in an amount and format satisfactory to the County.

1. INTRODUCTION

- 1.1 The San Luis Obispo Sheriff's Department is seeking proposals for an Automated Fingerprint Identification System (AFIS). The Sheriff's Department is the host agency for CAL-ID Board of San Luis Obispo County.
- 1.2 This document constitutes a Request for Proposal (RFP) for an Automated Fingerprint/Palmprint Identification System (AFIS) for the San Luis Obispo County Sheriff. All bids shall include all necessary hardware, operating and applications software, peripheral devices, record conversion, implementation, warranty and maintenance support services, and training needed for successful operation of the system by San Luis Obispo County Sheriff personnel.
- 1.3 The San Luis Obispo County and the CAL-ID Board reserve the right to reject any and all proposals or parts thereof and to waive minor irregularities in responses. The San Luis Obispo Sheriff's Department and the CAL-ID Board reserves the right to accept the proposal based on criteria other than price. Special attention will be directed to the qualifications of the respondents when awarding this proposal, including successful installations in California, and customer service policies.
- 1.4 The objective of this RFP is the selection of an AFIS to support San Luis Obispo Sheriff's Department operations by automating tenprint, palmprint, and latent entry, and fingerprint comparison, review, and charting of potential matching of fingerprints. To be accepted, all bids shall meet all mandatory San Luis Obispo Sheriff's Department requirements and shall provide:
 - 14.1 The fingerprint and palmprint entry, data storage, comparison, and retrieval capabilities defined in this RFP.
 - 14.2. Support for wide area networking, providing tenprint (card and/or integrated live-scan), palmprint, and latent fingerprint input, search, and review capabilities for remote sites as defined in this RFP.
 - 14.3. Improve database quality, accuracy, and user productivity, increasing the number of searches conducted and enabling the San Luis Obispo County Sheriff to carry out comparisons that could not be completed with the present system.

2. GENERAL REQUIREMENTS

- 2.1 All applicable hardware must be FBI IQS Appendix F Certified.
- 2.2 All systems must utilize a Windows 32 or 64-bit operating system
- 2.3 Vendor must have at least one operational install in California.
- 2.4 All Vendors must include a copy of their maintenance contract or contracts with their response.

3. SYSTEM ADMINISTRATION

- 3.1 A method of remote system maintenance must be provided for, allowing login by vendor maintenance personnel.
- 3.2 A suite of management reports should be made available for usage, hits vs. no hits ratios, percentage of automated identification vs. need for human intervention, and print out of submissions by user.

4. SECURITY

- 4.1 System security will meet the requirements for security outlined by the California Department of Justice for CORI information.
- 4.2 Client software must automatically log off after a period of inactivity.
- 4.3 Vendors will describe any accessories that would allow for biometric login.

5. FUNCTIONALITY

- 5.1 All client software must be Windows based.
- 5.2 All systems will meet the requirements of the California Department of Justice for criminal fingerprints.

6. ADAPTABILITY

- 6.1 All systems must be compatible with the San Luis Obispo County Wide Area Network.
- 6.2 Must operate in a variety of environments and a variety of conditions.
- 6.3 System must meet the interoperability criteria of the California Department of Justice and Federal Bureau of Investigation for access to their AFIS systems.

7. PERFORMANCE

- 7.1 Provide proposed system statistically predicted percentage of availability.
- 7.2 System to have 1Gigabyte Ethernet connectivity.
- 7.3 Each proposal will include independent test data indicating both the speed and accuracy of the fingerprint identification systems.
- 7.4 Each proposal will include a description of the systems ability to coordinate data from the booking system, records management system, and the photo system, and the cost if interfaces.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM**8. INSTRUCTIONS****8.1 OBLIGATIONS OF THE OFFEROR**

Upon receipt of offer hereunder, vendors shall be presumed to be familiar with all specifications and requirements of this request for proposal. The failure or omission to examine any form, instruction or document shall in no way relieve vendors from any obligation in response to this proposal

8.2 PROPOSAL VALIDITY

Proposals submitted hereunder should be firm for **120 days** from the date of bid opening unless otherwise qualified.

8.3 PROVEN PERFORMANCE

Emphasis will be placed on the background, experience, and stability of the firm. The evaluation will focus on the firm's record of successful supply/support programs of comparable size and environment. Client references will be contacted and their response made a part of the award review process.

8.4 SUPPORT

The extent of user technical training, engineering and installation support, warranty, and overall level of vendor support will be analyzed. The number of on-sight training hours to agency personnel will be a *critical evaluation item*. Proposal is to include administrator and user training, and provide network integration requirements.

8.5 MAINTENANCE

Vendor will include a detailed description of system maintenance and software upgrades. Yearly maintenance costs will be noted separate from total system price. Maintenance should be bid assuming a single payer for all systems. Bid should also be for one, three, and five years.

8.6 SPECIFICATIONS

The ability of the equipment or software to meet the specifications as outlined herein will be evaluated in terms of technical capabilities, reliability, maintainability, user friendliness, and compatibility, with the current San Luis Obispo County's environment.

8.7 PRICE PERFORMANCE

Cost will be evaluated in relationship to the foregoing criteria.

8.8 TIMELY COMPLETION OF TASKS

The vendor's ability to deliver the product and provide support in a timely manner will be an important consideration.

8.9 AWARD

The successful vendor shall be chosen in accordance with, but not limited to the preceding criteria.

San Luis Obispo County shall be the sole judge of the successful offeror(s).

San Luis Obispo County reserves the right to reject any and all proposals.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM**9. GENERAL CONDITIONS**

- 9.1 All goods proposed shall be in accordance with the governing health, building, safety, and fire protection codes and regulations.
- 9.2 All electrical equipment and accessories shall conform to the standards of the National Electrical Manufacturers Association (NEMA), and Underwriters Laboratory Inc (UL).
- 9.3 The Offeror shall hold and save harmless San Luis Obispo County from liability of any nature or kind, including cost and expense for or on account of any patented or unpatented invention, process, article, or application manufactured or used in the performance of the contract, including its use by San Luis Obispo County. Vendor further agrees to assume all expenses and damages from claims, suit, or proceedings.
- 9.4 Prior to acceptance hereunder, vendor shall deliver one (1) copy of user documentation, and operational manuals and one (1) security administration manual

10. PROPOSAL CONTENT

- 10.1 Vendor's response will state in a point-by-point manner whether their proposal is in compliance with the terms, conditions, and specifications of this proposal, Deviations therefore may be considered, provided that the vendor submits a full description.
- 10.2 Responses will outline both a turnkey solution, and a software only solution. Software only proposals must include detailed specifications for hardware to be purchased from a third party. Preference will be given to those solutions that can utilize the current VMWARE infrastructure outlined in appendix 1.
- 10.3 The vendor shall provide in their response the minimum space requirements, temperature limitations, electrical specifications/requirements, and any other environmental considerations necessary for optimal equipment performance.
- 10.4 Vendors will outline in detail the warranty to be extended to San Luis Obispo County for the proposed systems and equipment.
- 10.5 Vendors shall provide a complete outline of the proposed training with associated costs. Indicate ongoing costs to train users and the Sheriff's Department system administrator.
- 10.6 Vendor's will provide a copy of their proposed software and /or hardware maintenance agreements for service after the initial warranty period. All costs for maintenance will be quoted at one, three, and five years.

- 10.7 All costs will be FOB (DEST) San Luis Obispo Sheriff's Department, and include **California Sales Tax (8.25%)**
- 10.8 Provide name, address and phone number of at least one California government customer.
- 10.9 Vendors shall supply a profile of their company, including number of field service personnel available to California Customers, and where they are based.

11. SAN LUIS OBISPO COUNTY ENVIRONMENT

- 11.1 CLIENT SOFTWARE
 - 11.1.1 Windows XP or Window 7
- 11.2 LAN CONFIGURATION
 - 11.2.1 Ethernet 1 Gb
 - 11.2.2 CAT6 cabling
 - 11.2.3 Asynchronous Transmission Mode
- 11.3 COUNTY RECORDS MANAGEMENT SYSTEM
 - 11.3.1 EIS Records Management System
 - 11.3.2 Abby Group Jail Management System
 - 11.3.3 Dynamic Imaging System (Booking Photographs)
- 11.4 COUNTY LIVESCAN SYSTEMS
 - 11.4.1 CrossMatch ID 500P LiveScan
 - 11.4.2 CrossMatch ID 500 Livescan

12. TECHNICAL REQUIREMENTS

- 12.1 AFIS TECHNICAL REQUIREMENTS
 - 12.1.1 Description of Current AFIS Operation
 - Responsibilities of the SAN LUIS OBISPO SHERIFF'S DEPARTMENT include the following:
 - To roll, process, and file fingerprint and palmprint records and to conduct fingerprint searches of the card file to identify individuals.
 - To lift, process, and compare latent fingerprints and latent palmprints found at crime scenes against the fingerprint and palmprint record files.
 - To cooperate with all San Luis Obispo County law enforcement agencies in identification of individuals based on the above files.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

The San Luis Obispo County Sheriff's Department intends to acquire a state-of-the-art system, which uses the latest information technology advances, accompanied by advances in fingerprint and palmprint computerization, to accomplish the tasks above.

12.1.2 Current Operations

San Luis Obispo County Sheriff's Department operations currently include services performed for all San Luis Obispo Law Enforcement Agencies. Tenprint and palmprint records are forwarded from the participating police agencies to the CrossMatch Store and Forward at the San Luis Obispo County Sheriff's Department central site. Unsolved latent prints are forwarded for comparison at the San Luis Obispo County Sheriff's Department central site, and CAL-ID AFIS searches for all agencies except the San Luis Obispo Police Department.

12.1.3 Objectives of Implementation

By implementing an integrated AFIS fingerprint/palmprint system, the San Luis Obispo County Sheriff's Department intends to automate tenprint and palmprint record entry, apply optional automation and enhancement techniques to latent fingerprint and palmprint entry, automate print comparison, allow optional automation of tenprint:tenprint hit/no-hit determinations, and store all applicable record data. Use of an integrated, computerized system with advanced features to perform fingerprint and palmprint tasks is expected to significantly increase productivity and accuracy over the present system.

The proposed AFIS will also centralize data storage and file maintenance activities, making fingerprint and palmprint information available for search by participating agencies the San Luis Obispo County Wide Area Network. All proposed equipment must meet published standards for image capture, compression, and exchange, as listed below.

The San Luis Obispo County Sheriff's Department expects to implement AFIS database storage for future Fast-ID and Mobile ID programs. The AFIS shall be able to accept and process NIST compliant Mobile-ID transactions from remote/field devices.

12.1.4 Compliance to Standards

All AFIS components offered shall be designed to meet the following public standards:

- *FBI WSQ Gray-Scale Image Compression Specification* (IAFIS-IC-001v2, February 16, 1993).
- *ANSI Standard, Data Format for the Interchange of Fingerprint, Facial, and Other Biometric Information – Part 1* (ANSI/NIST-ITL 1-2007).

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

- *FBI Electronic Fingerprint Transmission Specification (EFTS)* (CJIS-RS-0010 (V7.1)), including Appendix F image quality specifications.
- *FBI Electronic Biometric Transmission Specification (EBTS)* (IAFIS-DOC-01078-8.0 Draft), including Appendix F image quality specifications.
- *FBI NCIC CJIS WAN Protocol Specification* and IAFIS telecommunications standards that specify use of TCP/IP, availability of FTP, and X.25 capability.
- *Finger Minutiae Format for Data Interchange Standard*, ANSI INCITS 378-2004.
- *Finger Pattern Data Interchange Format*, ANSI INCITS 379-2004.
- *Finger Image-Based Data Interchange Format*, ANSI INCITS 381-2004.
- *Common Biometric Exchange Formats Framework (CBEFF)*, ANSI INCITS 398-2004.
- *Applicable NIST Standards*

12.1.5 Types of Transactions

The specific transactions listed below shall be supported by the applicable system components for criminal, applicant, mobile, and miscellaneous processing, as required, to meet the California DOJ fingerprint processing program requirements:

1. CRM
2. SUP
3. IDN
4. QID
5. REG
6. DOC
7. TFS/TFR
8. APP
9. DCD

12.1.6 Architecture

San Luis Obispo County Sheriff's Department requires a multi-tier architecture that supports a "business logic" layer that is separate from the data and presentation (client) layers. In addition the bidder must describe their ability to integrate the local system with the California State AFIS and the FBI's IAFIS system.

12.1.7 Criminal Tenprint and Palmprint Capabilities

Criminal Tenprint and palmprint capabilities shall include entry from tenprint/palmprint cards or live-scanned tenprint and palm data, fully automated processing of data following image capture and descriptor

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

entry, search initiation and hit/no-hit determination, and San Luis Obispo County Sheriff's Department optional review of search results.

12.1.8 Criminal Tenprint and Palmprint Card Entry

Criminal Tenprint/palmprint card entry shall be performed in a separate tenprint work area. The workstation(s) provided for this function shall meet applicable occupational health and safety regulations. At the point of print capture, the equipment must support the following capabilities:

- a) Use of a high resolution 500 and/or 1000 dots per inch FBI-certified flatbed scanner for tenprint/palmprint card entry, accommodating a wide variety of tenprint card formats and paper stocks.
- b) Capture of larger rolled image areas (greater than 1" x 1") and other print areas in compliance with international standards for fingerprint capture.
- c) Automatic centering of fingerprint capture areas.
- d) Ability to review capture areas and to correct for improperly captured fingerprint/palmprint images by adjusting the location and angle of the capture boxes.
- e) Simple, straightforward pre-programming of multiple card formats.
- f) Automated print processing, including determination of minutiae location, ridge direction, and any other features that may be automatically derived from the fingerprint or palmprint.
- g) Keyboard entry of descriptors as defined in this RFP and capability for on-line download of descriptive data in NIST format from an SAN LUIS OBISPO SHERIFF'S DEPARTMENT external system for AFIS record creation and/or search.
- h) Fully automatic comparison of each rolled image against the corresponding "plain" impression, to ensure proper finger placement and no erroneous capture. To support twenty-four hour per day print submissions, this procedure will also be automated.
- i) Automatic identification of individual rolled/slap fingerprints print quality.
- j) Ability for the San Luis Obispo County Sheriff's Department system manager to set parameters to determine which records must undergo quality control before search, and which records may bypass quality control. The San Luis Obispo County Sheriff's Department system manager shall be able to set parameters for print quality (e.g. records with prints below a certain print quality must go to quality control), roll-slap mismatches, number of minutiae, and inability to classify.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

- k) Complete entry of a minimum of 50 cards per day, or 10 cards in a peak hour, with sufficient capacity to complete the specified daily workload averaged over the stated workday.
 - l) On-line help facility.
 - m) Automatic cropping of fingerprints for scanned tenprint cards
 - n) Automatic cropping of palm prints (upper/lower, whole hand and writers palm)
 - o) Automatic classification
 - p) Automatic plotting of the core and axis
 - q) Automatic finger sequencing checking
 - r) Editing functions to allow core and axis adjustments, pattern and reference pattern change, rolled to slap swap and hand swap.
- 12.1.9 Criminal Tenprint and Palmprint Search Initiation
- Criminal tenprint and palmprint search initiation shall support the following functions regardless of whether the record was entered from a tenprint inked card or submitted via live-scan:
- a) Automated search of the unsolved latent file, and (for tenprint searches) the tenprint file, using the best rolled or slap/plain fingers for fingerprint searches, and use of whole hand, lower, upper, and/or writer's palm segments for reverse palmprint latent searches.
 - b) Automatic rotation of search prints during print comparison; bidder shall state and justify the degree of print rotation offered.
 - c) Availability of data fields that can be set for pre-search filtering. Bidder shall specify which data fields are used in pre-search filtering.
 - d) Pre-defined search priorities, set by the system manager, which can be modified by the user at search initiation.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

- e) Storage of search record, including both rolled and plain/slap images, protecting data and supporting the capability to recall and modify the record without re-entering data.
- f) Ability to launch multiple searches with varying parameters without re-entering print(s), by recalling the record and modifying descriptive and/or fingerprint data.
- g) Forwarding of compressed images for data storage; compression using FBI standard compression algorithms.
- h) For tenprint searches, initial automatic hit/no-hit determination by the system, and support for optional review of hit/no-hit determinations as described below.

12.1.10 Optional Criminal Tenprint and Palmprint Search Results Review

The San Luis Obispo County Sheriff's Department system manager shall be able to specify whether clear hits and/or clear no-hits require search results review. For those cases in which tenprint/palmprint search review is performed, search review shall support the following functions:

- a) Ability for a user to review search results from any supported workstation.
- b) Recall of computer-generated hit/no-hit determinations for confirmation or override of the results.
- c) On-screen side-by-side review of gray-scale rolled and slap/plain images, including the search print and prints from the potential matching file records.
- d) On-screen viewing of the search results list.
- e) Presentation of potentially matching file records in descending order of match probability.
- f) Opportunity for user to chart points of similarity for the matching prints in evidence presentation format, including use of lines and text. This screen should be printable in color with fingerprint images output in gray-scale.
- g) Automatic retention of all search records, except for records which cannot legally be stored in the system (such as applicant records in a criminal system).
- h) Opportunity for user to recall and modify the search record to re-initiate a search without re-entry.
- i) On-line help facility.

12.1.11 Latent Capabilities

Latent capabilities shall include image capture directly from lifts, photographs, or small objects; user-directed or automated encoding; descriptor entry; automated search initiation; and automated review

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

of search results. Latent work at the central site may be performed in a separate area from tenprint work or AFIS processing.

12.1.12 Latent Entry

Latent print entry may be performed in a separate latent work area. The system must support the following capabilities:

- a) Ability to capture latents from lifts or photographs using a 1000 ppi FBI-certified flatbed scanner. This capability is required on 3 central site latent workstations and 1 remote latent workstations.
- b) Ability to import images in TIF, JPG, or BMP formats. This capability is required on all latent capture workstations.
- c) Ability to process prints captured at another workstation. This capability is required on 3 central site latent workstations.
- d) Ability to specify the image resolution of captured images.
- e) Option for user-governed identification of minutiae using a mouse.
- f) Option for automated latent encoding available at any time. Based on the data available on the subject print, this function shall include placement of minutiae points.
- g) User-directed on-screen image enhancement.
- h) Keyboard entry of descriptors as defined in this RFP.
- i) Designation of a latent as a finger latent (with optional specification of the possible finger number(s)), or a palm latent (with optional specification of the applicable palm area).
- j) Complete entry of a latent print by a trained latent examiner within an average of 10 minutes or less.
- k) Ability to continue latent entry and storage on the local workstation if central processing equipment is temporarily unavailable. The workstation should automatically submit to AFIS when it becomes available.
- l) On-line help facility.

12.1.13 Latent Image Enhancement

The following image enhancement capabilities shall be available during the entry of latent prints:

- a) Brightness.
- b) Contrast.
- c) Invert.
- d) Reverse.
- e) Histogram Equalization.
- f) Pattern Removal.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

- g) Gabor Filter.
- h) Emboss.
- i) Despeckle.
- j) Gamma.
- k) Gradient.
- l) Sharpen.
- m) Intensity Detect.
- n) Laplacian.
- o) Line Segment Detect.
- p) Prewitt.
- q) Shift Differential.
- r) Sobel.
- s) Stretch.
- t) 3D.
- u) Vertical Ridge Processing (VRP)
- v) Frequency Noise Reduction
- w) Auto-Gain Control
- x) Auto-Color Level
- y) Average
- z) Difference of Gaussian
- aa) ELMA
- bb) Gaussian
- cc) Smooth

Integration between the latent entry application and Adobe Photoshop, shall allow once the latent print is captured, the user to have the ability to launch and import the print into Adobe Photoshop, and retrieve it after enhancement.

The following features shall be available for latent processing:

- 1) Ability to merge multiple latent candidates lists
- 2) Ability to utilize dual monitors
- 3) Latent inquiry to CAL-DOJ or WIN
- 4) Latent Registration to CAL-DOJ or WIN
- 5) Latent Inquiry-Palm to CAL-DOJ or Win
- 6) Latent Registration-Palm to CAL-DOJ or WIN
- 7) Allow conditions for performing a Latent Inquiry to CAL-DOJ
Or WIN: Yes, No or Conditional

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM**12.1.14 Latent Case Management**

Distributed latent case management facilities are required. Case management databases shall be required on each latent capture workstation.

The case management facility shall store text, image, and feature information for cases that have been submitted to AFIS, and shall also be capable of storing non-AFIS quality impressions and other images.

Bidder shall describe available latent case management facilities.

12.1.15 Latent Search Initiation

Latent search initiation shall support the following functions:

- a) Automated search of the tenprint, palmprint, and/or the unsolved latent files.
- b) Ability to initiate a search with or without descriptive information (e.g., age, sex, race, etc.).
- c) Pre-defined search priorities, set by the system manager, which can be modified by the user at search initiation.
- d) Storage of search records, supporting the capability to recall and modify the record and resubmit the search without re-entering the record. Workstations must provide local storage capacity for at least one day's work, including searches submitted and search results awaiting review.
- e) Searching and Registration of latent (finger or palm) to the California DOJ AFIS and WIN network databases without rescanning, reediting or re-processing of the latent print.

12.1.16 Review of Latent Search Results

Latent search review shall support the following functions:

- a) Ability for a user to review search results from any supported workstation.
- b) Availability of potentially matching candidates for review of the results.
- c) On-screen side-by-side review of gray-scale images, including the search print and prints from the potential matching file records.
- d) On-screen viewing of the search results list.
- e) Presentation of potentially matching file records in descending order of match probability.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

- f) For latent vs. tenprint searches, presentation of thumbnail images for individual matching tenprint images on the same screen. This will allow a latent examiner to bypass candidates that obviously do not match the latent (e.g., candidate images with different classifications). Bidder shall state the number of candidate images that can be viewed on one screen (e.g. the ability to view images for five candidates).
- g) For latent vs. palmprint searches, ability to either focus upon the palmprint region of interest, or to show the entire palm.
- h) For latent vs. tenprint searches, ability to use a separate match analysis application to re-encode the search latent on the match report and automatically re-calculate all matching scores for file records on the match report.
- i) Opportunity for charting of points of similarity for the matching prints in evidence presentation format, including use of lines and text. This screen should be printable in color with the images output in gray-scale. Bidder shall describe how charting is performed.
- j) Opportunity for user to determine whether search record is retained in system databases or deleted.
- k) Opportunity for user to recall and modify the search record and re-initiate a search. The modified search record may be immediately compared against the recalled file data, or it may be re-sent to the AFIS for a search against the entire database.
- l) Availability of search results at any workstation.
- m) On-line help facility.

12.1.17 Record Comparison

The software shall allow the operator to retrieve two individual images for manual comparison.

12.1.18 Record Archive

- 12.1.18.1 The AFIS solution proposed shall include an archive subsystem for storage and retrieval of tenprint/palm records and documents. Archive solutions shall be capable of providing basic keywords and advanced searching capabilities against NIST type 1 and NIST type 2 record fields, as well as documents in archive stored in common formats.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

12.1.19 Operating Hours

Operating hours are given below.

SAN LUIS OBISPO SHERIFF'S DEPARTMENT DEFINES LOCATIONS BY NAME, STATES HOURS OF OPERATION FOR EACH

Location	Type of Activity	Hours/day	Days/Week
Central Site, Computer Area	Searching, Matching, and Data Storage	24	7
Central Site Tenprint Area	Tenprint/Palmprint Card Entry and Search Review	10	5
Central Site Latent Area	Latent Print Entry and Search Review	10	5
Central Site Applicant Processing Area	Applicant Processing Entry and Search Review	0	0
Remote Tenprint Site	Tenprint/Palmprint Card Entry and Search Review	8	5
Remote Live-Scan Site	Tenprint/Palmprint Entry (booking), Card Printout	24	7
Remote Live-Scan Site	Two-Finger Identity Confirmation	24	7
Remote Latent Site	Latent Print Entry and Search Review	8	5
Remote Applicant Processing Site	Applicant Processing Entry and Search Review	0	0

12.1.20 System Databases

Relational database software shall support flexible definition of descriptor data, database queries, and sophisticated statistical report generation. The Oracle relational database is preferred. Bidders shall indicate their compliance with these requirements.

12.1.21 Database Capacities

The system must be designed to support initial requirements plus growth through the end of Year 5 after system installation. Therefore design database sizes should be as follows:

12.1.21.1. Criminal Tenprint Database: 100,000 incident (booking) records (one record per person record), 10 rolled prints, 2 slap thumbs, 2 four-finger slap images, and 8 automatically segmented plain print images (from slaps) per record. Images shall conform to the image dimensions stated in the ANSI/NIST-ITL 1-2007 standard (e.g. 1.6" x 1.5" rolled images).

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

12.1.21.2. Criminal Palmprint Database: 50000 case records (one case record per person record), including lower palms, upper palms, and writer's palms for both hands. Each record shall include features, descriptors, and images. Images shall conform to the image dimensions stated in the ANSI/NIST-ITL 1-2007 standard (e.g. 5.5" x 5.5" lower palms).

12.1.21.3. Unsolved Latent Database: 2500 case records (2000 finger latents, 500 palm latents), average of 2 prints per record. Each record shall include features, descriptors, and images.

12.1.22 Database Fields

The system must use the available descriptors as filters whenever possible to limit the scope of a search. At the time a fingerprint is entered, the user must be able to enter and review the descriptors for each record.

12.1.23 Image Storage Requirements

All images shall be captured in 256 shades of gray. All criminal tenprint, latent fingerprint, and palmprint data shall be captured at 500 and/or 1000 ppi resolution. All Applicant Processing fingerprint data shall be captured at 500ppi resolution. The compression ratios shall be as follows:

12.1.23.1. Tenprint and Palmprint Databases: WSQ 15:1 compression for 500 ppi data; JPEG 2000 15:1 compression for 1000 ppi data

12.1.23.2. Latent Database: no compression

12.1.23.3. Applicant Processing Databases: WSQ 15:1 compression for 500 ppi data

Individual images or image records shall be retrievable by identification number or case number. Image records shall also be retrieved in response to search results review requests and provided to the requesting workstation as part of a search results data packet. The bidder shall propose highly available magnetic disk arrays for data storage. They shall discuss their proposed storage methodology based on criteria such as speed, data protection, backup capabilities, and flexibility for future expansion.

To maximize database security and synchronization, San Luis Obispo County Sheriff's Department requires that bidders shall store all images within the database (rather than having the database store pointers to images that are outside of the database).

12.1.24 Print Comparison Requirements

The bidder shall state the assumptions used to calculate the proposed search capacity, as follows:

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

- 12.1.24.1. Data known for average latent tenprint search, stated in terms of the percent of the database against which a comparison is carried out. Assumptions regarding the number of stored cases per person must be stated. Discuss the effects of any secondary matching processes, pre- and/or post-search filters, and post-search score boosters.
- 12.1.24.2. Data known for average tenprint: stated in terms of the percent of the database against which a comparison is carried out. Assumptions regarding the number of stored cases per person must be stated. Discuss the effects of any secondary matching processes, pre- and/or post-search filters, and post-search score boosters.

The bidder shall discuss their proposed print comparison methodology based on the following criteria:

- 1) Use of fingerprint friction ridge flow (patterns) by the proposed matching solution. Preference will be given to systems that allow, but do not require, the use of patterns in fingerprint searches.
- 2) Use of friction ridge events (bifurcations, ending ridges, dots) by the proposed matching solution.
- 3) Use of friction ridge dimensional attributes (width, edge shapes, and pores) by the proposed matching solution.
- 4) Use of individual fingerprints in latent and tenprint searches. Preference will be given to systems that reduce manual intervention while using all available fingerprint data (rolled and plain).
- 5) Speed of print comparison for the processor intensive, random access operations characteristic of AFIS operations.
- 6) Average time to complete each of the following print comparison tasks (measured from receipt of search request to completion of print comparison, excluding data transmission or image retrieval) assuming no other searches of the same or higher priority are active:
 - Tenprint: tenprint comparison
 - Tenprint: latent comparison
 - Latent: tenprint comparison
 - Latent: latent comparison
 - Latent: palmprint comparison
 - Palmprint: latent comparison

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

- 7) Average accuracy projections for each of the following print comparison tasks:
 - Tenprint: tenprint comparison
 - Tenprint: latent comparison
 - Latent: tenprint comparison
 - Latent: latent comparison
- 8) State assumptions for estimates (e.g., number of minutiae, other data known, print quality, etc.).
- 9) Flexibility to implement other types of searches (e.g., tenprint: tenprint search when only two fingers of data are available).
- 10) Flexibility of the proposed approach, including the ability to enhance the application by implementing improved search algorithms, use of additional feature data, accessing secondary databases, etc.

13. SYSTEM MANAGEMENT TASKS**13.1 REVIEW OF IN-PROCESS TRANSACTIONS**

A system manager shall be able to log in to a workstation and view the status of all in-process transactions, preferably in a graphical format. Bidders shall describe the software ability to view and review in-process transactions.

The system manager shall be able to view the number of transactions at different workflow queues (i.e. the number of transactions awaiting quality control, the number of transactions awaiting tenprint verification, etc.). The software shall use visual cues to alert the system manager if one or more of the queues has an inordinately large number of transactions; this will allow the system manager to divert resources as necessary (for example, if too many cases are awaiting quality control, the system manager can assign more operators to quality control, or shall allow more high-quality submissions to bypass quality control).

13.2 MANUAL AND AUTOMATED OPERATION

For tenprint submissions, the system shall offer the ability for the San Luis Obispo County Sheriff's Department system manager to set parameters to determine which records must undergo quality control before search, and which records may bypass quality control. The San Luis Obispo County Sheriff's Department system manager shall be able to set parameters for print quality (e.g. records with prints below a certain print quality must go to quality control), roll-slap mismatches, number of minutiae, and inability to classify.

For tenprint searches, the San Luis Obispo County Sheriff's Department system manager shall be able to specify whether clear hits and/or clear no-hits require search results review (verification).

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

13.2.1. If the system makes a "clear hit" determination, and if the system administrator allows verification to be bypassed for clear hits, then verification of clear hits shall not be required.

13.2.2. If the system makes a "clear no-hit" determination, and if the system administrator allows verification to be bypassed for clear no-hits, then verification of clear no-hits shall not be required.

13.3 EXPIRED RECORDS MANAGEMENT

The proposed system shall allow privileged system administrators to automate the deletion process for expired records. Bidder shall describe how expired records are designated, and how the system administrator can manage them.

13.4 SYSTEM REDUNDANCY

The proposed system shall include:

- Hot swappable Blade Server Components
- Hot swappable Raid 5 storage
- Redundant Power Supplies

13.5 SYSTEM SECURITY

The bidder shall explain the security features of its system, as follows:

13.5.1. The proposed system shall provide a multi-level access control system using user names and passwords. Bidder shall describe password capabilities, including password expiration and user lockout if a workstation is idle for a period of time.

13.5.2. In addition to the multi-level access control system described above, the system shall support one time passwords for administrative access to servers, and shall also support one time passwords for vendor system access.

13.5.3. The system manager shall be able to limit the tasks available to a particular user. Bidder shall describe how access privileges are managed in the system.

13.5.4. The proposed system shall record and report identifying information (such as user ID and IP address) for persons that log in to the system.

13.5.5. The proposed system shall provide reports for administrator use that show active accounts and their assigned roles.

13.5.6. The proposed system shall provide the ability for operations personnel to monitor the system and to stop and restart services.

13.5.7. Bidders shall list the anti-virus software which is compatible with its software, and offer recommendations for configuration. Anti-virus software is to be provided for all Windows-based computers by the Bidder

13.5.8. The proposed system shall incorporate "strong encryption" software that protects the confidentiality of the communications between the system and an authorized user, and between the system and an authorized administrator.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM

13.5.9. The proposed system shall detect loss of data integrity (e.g. unauthorized file modifications) affecting security functions.

13.5.10. To provide improved compatibility with standard network logging system, the system shall provide the ability to export audit logs to a standard network logging service.

13.6 SYSTEM REPORTS

The system shall generate a pre-defined set of reports on system database makeup, usage statistics, and hit rates. The bidders shall fully describe the standard reports, including the following:

13.6.1. All reports that provide information on user roles and/or privileges, including creation/deletion of users and changes to roles.

13.6.2. All reports that provide information on database records, including deletion of records.

13.6.3. All reports that provide information on the data repository, including the sizes of the various databases.

13.6.4. Quality reports on submitted finger and palm print submissions by submitting operator.

13.6.5. All match reports.

13.6.6. All error logs.

13.6.7. All audit logs.

The system shall also provide San Luis Obispo County Sheriff's Department - definable report generation capability. The bidders shall provide a brief description of this utility and its flexibility for creating site-specific report formats.

13.7 HARDWARE

All system processors shall be open systems compliant and shall maximize use of commercial off-the-shelf hardware as well as operating and applications software packages.

While bidders may propose an alternative configuration that includes proprietary hardware, the base configuration must include commercial-off-the-shelf hardware only.

If a bidder proposes proprietary hardware, bidder shall describe how it manages the proprietary hardware components, and its plan for upgrading proprietary hardware.

Hardware bid should include one networkable printer listed in the FBI's appendix F listing of acceptable fingerprint hardware.

AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM**RFP # 1050 Appendix 1
Current VMWare Infrastructure**

VMWare Version: 4.0.0 VSphere

ESX Server Hardware Information:

We have 3 ESX Servers with the below configuration

Model: HP Proliant DL 360 G5

Processor: Dual Intel Xeon CPU x5450 @ 3.0GHz (8 CPU Cores)

Memory: 32 GB

This gives us 72 Ghz of total processor power and 96 GB of Memory. Current usage for the available CPU is at average 1.062%. The current usage for available memory is at average 27.26%.

Storage Area Network (SAN) Information:

SAN Software: DataCore SANmelody 3.0.0.1

We have 2 SAN Controller with the below configuration

Model: HP Proliant DL 360 G5

Processor: Intel Xeon CPU x5450 @ 3.0GHz (4 CPU Cores)

Memory: 4 GB

Storage: 5 Tera Bytes

The SAN Controllers which are in active/active symtentic replication configuration. Meaning each controller is an exact mirror of the other so that we can lose one controller and not be down. We have a total of 5 Tera Bytes available of which 70% of it that is allocated to current Virtual Machines.