County of Los Angeles
DEPARTMENT OF PUBLIC SOCIAL SERVICES
12860 CROSSROADS PARKWAY SOUTH • CITY OF INDUSTRY, CALIFORNIA 91746
Tel (562) 908-8400 • Fax (562) 908-0459

PHILIP L. BROWNING
Director

SHERYL L. SPILLER
Chief Deputy

Board of Supervisors
GLORIA MOLINA
First District
MARK RIDLEY-THOMAS
Second District
ZEV YAROSLAVSKY
Third District
DON KNABE
Fourth District
MICHAEL D. ANTONOVICH
Fifth District

December 07, 2010

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

APPROVE AMENDMENT NUMBER ONE TO AGREEMENT NO. 77217 WITH SAS INSTITUTE INC. FOR DATA MINING SOLUTION (ALL DISTRICTS - 3 VOTES)

CIO RECOMMENDATION: APPROVE (X) APPROVE WITH MODIFICATION ( ) DISAPPROVE ( )

SUBJECT

The Department of Public Social Services (DPSS), in collaboration with the Service Integration Branch (SIB) of the Chief Executive Office (CEO), seeks your Board's approval of Amendment Number One to Agreement Number 77217 with SAS Institute Inc. (SAS) for Data Mining Solution (DMS), dated December 22, 2009 (Agreement), in order to conduct a DMS pilot for the In-Home Supportive Services (IHSS) Program (IHSS Pilot) at no additional cost.

IT IS RECOMMENDED THAT YOUR BOARD:

1. Approve and instruct the Mayor to sign Amendment Number One (Attachment II) to the Agreement, which includes Exhibit A (Attachment II A), Statement of Work, and Exhibit B (Attachment II B), Schedule of Payments, for the IHSS Pilot to be performed by SAS at no additional cost to the County beyond the current cost of the Agreement with SAS for DMS Stage 1 Child Care Program Development and Implementation. The IHSS Pilot is estimated to be completed within 90 days from County's notice to proceed and will include project administration services and assessment of the feasibility of using data mining technology to help County detect and prevent fraud in the IHSS Program.

2. Delegate authority to the DPSS Director or his designee to direct the County's Project Director under the current Agreement to modify the current Agreement by Change Notice in order to (i) reduce the scope of work required under the Agreement by eliminating the requirement that SAS implement and support a back-up server due to County's election to utilize SAS' standard business continuity services which provides for restoration of services within a five hour time period, and (ii) reallocate the cost savings from such reduction in the scope of work, estimated at $117,290, to the pool dollars to be used for the procurement of optional work requested by County.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

On December 22, 2009 your Board approved Agreement Number 77217 with SAS for the development, implementation, maintenance and support of data mining technology to target fraud in the CalWORKs Stage 1 Child Care Program. Amendment Number One will allow SAS to conduct a DMS pilot for the IHSS Program at no additional cost.

The goal of the IHSS Pilot is to demonstrate the benefits of utilizing data mining technology to detect and prevent fraud in the IHSS Program. Working with SAS data prepared by County staff, SAS will apply advanced analytical models to assess the degree to which statistical analysis can reliably identify the characteristics of IHSS Program fraud. Target measures will include current indicators of potential fraud such as fraud referrals, current rules-based algorithms, and actual criminal charges and convictions. The outcome of the IHSS Pilot will be a set of preliminary predictive models that can be used to detect potential fraud. Additionally, County will perform an assessment of cost avoidance potential of the IHSS data mining solution. As part of the IHSS Pilot, SAS will provide project administration services and complete an assessment of the feasibility of using data mining technology to help detect and prevent fraud in the IHSS Program.

Amendment Number One delegates authority to the DPSS Director or his designee to direct the County's Project Director to modify the current Agreement by Change Notice in order to (i) reduce the scope of work required under the Agreement by eliminating the requirement that SAS implement and support a back-up server due to County's election to utilize SAS' standard business continuity services instead and (ii) reallocate the cost savings from such reduction in the scope of work, estimated at $117,290, to the pool dollars to be used for the procurement of optional work requested by County.

Implementation of Strategic Planning Goals

The recommendation is consistent with the principles of County Strategic Plan Goal #1 (Operational Effectiveness) to provide the public with easy access to quality information and services that are both beneficial and responsive. In addition, Amendment Number One is consistent with DPSS' objectives for increasing the efficiency and effectiveness of departmental programs through expanded information technology and communications, and is included in the Department's Business Automation Plan.

FISCAL IMPACT/FINANCING

The current Agreement has a Maximum Contract Sum of $4,230,937, which includes $2,510,955 allocated for DMS Development and Implementation, $1,626,282 for System Maintenance and Support and $93,700 for pool dollars (optional work). The services for the IHSS Pilot under Amendment Number One will be provided by SAS at no additional cost to the County and the Maximum Contract Sum will remain $4,230,937.

Following approval of delegated authority by your Board, the County Project Director will issue a Change Notice to reduce the scope of work surrounding the implementation of a back-up server and corresponding DMS Development and Implementation costs by approximately $78,300 and the System Maintenance and Support costs by approximately $38,990, and reallocate the resulting $117, 290 in total funds to the pool dollars for the procurement of optional work requested by County during the term of the Agreement. This will result in the same Maximum Contract Sum of $4,230,937, comprised of $2,432,655 for DMS Development and Implementation, $1,587,292 for System Maintenance and Support and $210,990 for pool dollars (optional work).

FACTS AND PROVISIONAL/LEGAL REQUIREMENTS

Amendment Number One will become effective upon Board approval. All terms and conditions, including information technology provisions included in the current Agreement, will continue to apply to the Agreement following execution of the proposed Amendment Number One.

Amendment Number One has been reviewed and approved as to form by County Counsel. The Chief Information Office (CIO) concurs with this joint DPSS' and CEO-SIB's recommendation (see attached CIO Analysis [Attachment I]).

CONTRACTING PROCESS

On December 22, 2009, your Board approved Agreement Number 77217 with SAS for the DMS development, implementation, maintenance and support, starting with a data mining solution to detect and prevent fraudulent activities among individuals or groups participating in the County's CalWORKs Stage 1 Child Care Program. The Agreement provides for the ability to add other County public assistance programs to the DMS.

Pursuant to your Board's motion of August 17, 2010, Amendment Number One authorizes SAS to conduct a 90 day IHSS Pilot for the purpose of assessing data mining technology to target fraud in the IHSS Program and establishing a platform that can be leveraged to prevent and detect fraud in other County public assistance programs.

While the IHSS Pilot will be provided by SAS at no additional cost, the County is under no obligation to engage SAS to provide data mining services to detect and prevent fraud in the IHSS Program or other County public assistance programs or other services.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

The use of the data mining technology in the IHSS Program and other County public assistance programs for fraud detection and prevention is expected to result in new fraud referrals, early detection of fraud and increased efficiency, all leading to cost avoidance. As the use of the data mining technology is extended to other public assistance programs beyond CalWORKs and IHSS, the cost avoidance is expected to increase.

CONCLUSION

Upon Board approval, it is requested that the Executive Officer of the Board of Supervisors return three original signed copies of the Amendment and two adopted stamped Board letters to the Director of DPSS.

Respectfully submitted,

Philip L. Browning
Director

Reviewed by:

Richard Sanchez
Chief Information Officer

PLB:af

Attachments

c: Chief Executive Officer
County Counsel
Executive Officer, Board of Supervisors
Chief Information Officer
Auditor-Controller
Chair, Information Systems Commission
Director, Internal Services Department

CIO ANALYSIS

AMENDMENT NUMBER ONE TO AGREEMENT NUMBER 77217
WITH SAS INSTITUTE, INC. FOR DATA MINING SOLUTION

CIO RECOMMENDATION: ☒ APPROVE ☐ APPROVE WITH MODIFICATION ☐ DISAPPROVE

Contract Type:
☐ New Contract ☒ Contract Amendment ☐ Contract Extension
☐ Sole Source Contract ☐ Hardware Acquisition ☐ Other

New/Revised Contract Term: Base Term: 2 Yrs. # of Option years: 2

Contract Components:
☒ Software ☒ Hardware ☐ Telecommunications
☒ Professional Services

Project Executive Sponsor: Michael J. Sylvester II, Director, Bureau of Contracts and Technical Services, DPSS

Budget Information :

Y-T-D Contract Expenditures	$1,551,664
Requested Contract Amount	$4,230,937
Aggregate Contract Amount	$4,230,937

Project Background:

Yes	No	Question
☐	☒	Is this project legislatively mandated?
☒	☐	Is this project subvented? If yes, what percentage is offset? 100% of the cost of the project will be offset using the Department's CALWORKS funds originating from the State of California.
☐	☒	Is this project/application applicable to (shared use or interfaced) other departments? If yes, name the other department(s) involved.

Strategic Alignment:

Yes	No	Question
☒	☐	Is this project in alignment with the County of Los Angeles Strategic Plan? The Department's Data Mining Solution supports County Strategic Plan Goal #1 (Operational Effectiveness) to provide the public with easy access to quality information and services that are both beneficial and responsive.
☒	☐	Is this project consistent with the currently approved Department Business Automation Plan? The project is identified in the Department's FY 2009-10 and FY 2010-11 Business Automation Plan.

Yes	No	Question
☒	☐	Does the project's technology solution comply with County of Los Angeles IT Directions Document? The Department's Data Mining Solution complies with IT Directions document by conducting government electronically to improve the delivery of services.
☒	☐	Does the project technology solution comply with preferred County of Los Angeles IT Standards? The Department's data mining project utilizes SAS software which is used by several County departments.
☒	☐	This contract and/or project and its milestone deliverables must be entered into the Information Technology Tracking System (ITTS).

Project/Contract Description:

The Department of Public Social Services (DPSS) is seeking Board approval for Amendment Number One to Agreement Number 77217 with SAS Institute Inc. (SAS) for Data Mining Solution (DMS) to provide the following:

- Conduct a no cost pilot to determine the viability of DMS' technology to detect fraud within DPSS' In Home Support Services (IHSS) Program; and
- Eliminate the requirement for a backup server and reallocate $117,290 to the Agreement's pool dollars fund.

Background:

On December 22, 2009, the Board approved Agreement Number 77217 with SAS for the development, implementation, maintenance, and support of a DMS for County CalWORKs child care fraud detection. The Agreement provides for the ability to add other County public assistance programs to DMS.

Amendment Number One will enable DPSS to conduct a no cost 90-day pilot to determine the viability of DMS' technology to detect fraud within their IHSS Program. If successful, DPSS will submit a subsequent amendment for expansion of the DMS to IHSS fraud analysis capability.

Project Justification/Benefits:

Amendment Number One will provide a no cost pilot to determine if DMS can detect and prevent fraudulent activities among clients in the IHSS Program. This increased detection of fraud will enable DPSS to more effectively utilize program funds.

In addition, the Amendment will eliminate a contract requirement to implement and support a DMS backup server and reallocate $117,290 in contract funding to Agreement pool dollars, which are used to purchase optional services. In lieu of the dedicated server, DPSS has elected to utilize SAS' standard business continuity service offering which provides for a restoration of services within a five (5) hour time period.

Project Metrics:

The Agreement clearly identifies the service levels and system performance metrics to be provided by the contractor for the term of the Agreement. The IHSS Pilot will adhere to the same requirements.

Impact on Service Delivery or Department Operations, if Proposal is Not Approved:

The Amendment will enable DPSS to conduct a no cost 90-day pilot to determine the viability of DMS' technology to detect fraud within their IHSS Program. If the Amendment is not approved, DPSS will not be able to evaluate the effectiveness of this technology in strengthening their current fraud detection capabilities.

Alternatives Considered:

None.

Project Risks:

DMS has normal risks for system implementation. DPSS and CEO-SIB have mitigated these risks by providing executive sponsorship, stable project staffing, clear roles and responsibilities, full-time project management, and defined deliverables. The IHSS Pilot will utilize the same project oversight. The Chief Information Security Officer reviewed the Amendment and did not identify any security risks or issues.

Risk Mitigation Measures:

DMS' project utilizes the risk mitigation measures described above and will continue to monitor these and other risks as implementation progresses.

Financial Analysis:

Amendment Number One does not impact the Agreement's maximum contact sum. It provides the County with a no cost IHSS fraud pilot, and eliminates an Agreement requirement and reallocates $117,290 in contract funds to the Agreement's pool dollars for optional work.

CIO Concerns:

None.

CIO Recommendations:

My Office supports this action and recommends approval by the Board.

CIO APPROVAL

Date Received: October 21, 2010

Prepared by: James Hall

Date: October 22, 2010

Approved:

Date: 11-22-10

AMENDMENT NUMBER ONE
TO
AGREEMENT
BETWEEN
COUNTY OF LOS ANGELES
AND
SAS INSTITUTE INC.
FOR
DATA MINING SOLUTION (DMS)
FOR
CHILD CARE FRAUD DETECTION

This Amendment Number One is entered into this _____ day of _____, 2010 by and between the County of Los Angeles, a body corporate and politic (hereinafter "County"), and SAS Institute Inc., a North Carolina corporation (hereinafter "Contractor"), and amends that certain Agreement Number 77217 for Data Mining Solution (DMS) for Child Care Fraud Detection, dated as of December 22, 2009 (hereinafter, as amended, including without limitation, by this Amendment Number One, "Agreement").

WHEREAS, County and Contractor have entered into the Agreement for the design, development, implementation and maintenance of the Data Mining Solution for Child Care Fraud Detection (hereinafter "DMS");

WHEREAS, County has requested, and Contractor has agreed, to develop and implement a no cost pilot in order to assess the feasibility of using data mining technology for screening potential fraud in County's In-Home Supportive Services (IHSS) program (hereinafter "IHSS Pilot").

NOW THEREFORE, in consideration of the foregoing and pursuant to Paragraph 4 (Change Notices and Amendments) of the Base Agreement, County and Contractor hereby agree to amend the Agreement as follows:

1. The Agreement is hereby incorporated by reference, and all of its terms and conditions, including capitalized terms defined therein, shall be given full force and effect as if fully set forth herein.

2. As a result of this Amendment Number One, the following definitions are added to Paragraph 1.3 (Definitions) of the Base Agreement amending such Paragraph 1.3:

1.3.155 AMENDMENT ONE EFFECTIVE DATE

As used herein, the term "Amendment One Effective Date" shall mean the date of execution of Amendment Number One to the Agreement by the authorized representative(s) of County and Contractor.

1.3.156 IHSS PILOT

As used herein, the term "IHSS Pilot" shall mean and refer to the tasks, subtasks, deliverables, goods, services and other Work provided by Contractor pursuant to Task 11 (IHSS Pilot) of Exhibit A (Statement of Work) for the development and implementation of a DMS pilot for County's In-Home Supportive Services (IHSS) program, as further specified in Amendment Number One to the Agreement.

3. As a result of this Amendment Number One, the following definitions are added to Paragraph 1.3 (Definitions) of the Base Agreement have been deleted in their entirety and replaced with revised definitions amended to read as follows:

1.3.45 DATA MINING SOLUTION; DMS

As used herein, the terms "Data Mining Solution" and "DMS" shall have the same meaning as System and shall include all System Data, System Environment, System Software and the IHSS Pilot, developed or provided by Contractor to County in accordance with the terms of this Agreement.

1.3.84 PHASE 1

As used herein, the term "Phase 1" shall mean the initial stage of the Project consisting of the CalWORKs Stage One Child Care program and the IHSS Pilot.

1.3.85 PHASE 2

As used herein, the term "Phase 2" shall mean the subsequent stage of the Project expanded to the DPSS programs beyond the CalWORKs program and the IHSS Pilot.

1.3.93 PROJECT

As used herein, the term "Project" shall mean DMS implementation, maintenance and support initially for the CalWORKs Stage One Child Care program under Phase 1 and/or Phase 2 (if this Agreement is amended pursuant to Paragraph 4.3 (Amendments) below to include Phase 2), the IHSS Pilot that may be provided by Contractor under Phase 1 and utilization of the System Software, including the Baseline Software, by Contractor or County for developing solutions or models for any County programs, as further specified in this Agreement and Exhibits A (Statement of Work) and D (System Maintenance), including the Transition License.

1.3.116 SYSTEM

As used herein, the term "System" shall mean all System Environment, System Data, Internet Services, System Software, the IHSS Pilot and Optional Work Components described in this Agreement and, as otherwise agreed to by County and Contractor, collectively comprising the Data Mining Solution or DMS. Reference to the System may include one or more components or modules thereof or the entire System.

1.3.132 SYSTEM SOLUTION

As used herein, the term "System Solution" shall mean and refer to any of the solutions developed or designed by Contractor for County pursuant to this Agreement as part of the Core Application and under any previous or other current agreements with County relating to or concerning the Pilot, the IHSS Pilot or the Project, including but not limited to the Delegated Authority Agreement for Adult Linkages Project between the County of Los Angeles and SAS Institute Inc., dated August 27, 2007 (DAA Number

AO-07-056), and shall include DQ&I Solution, Analytics Models and Baseline Interfaces.

3. Paragraph 4.3 (Amendments) of the Base Agreement is deleted in its entirety and replaced with revised Paragraph 4.3 amended to read as follows:

4.3 AMENDMENTS

Except as otherwise provided in this Agreement, for any change requested by County which affects the scope of Work, term, payments, or any term or condition included in this Agreement, a negotiated written Amendment to this Agreement shall be prepared and executed by each of County's Board of Supervisor's and Contractor's authorized representative. Notwithstanding the foregoing, the Director is specifically authorized to execute a negotiated written Amendment to this Agreement on behalf of County upon County's election to extend the scope of this Agreement beyond Phase 1 into Phase 2 based on the terms negotiated herein and in such Amendment. However, neither such authority nor County's engagement of Contractor to develop and implement the IHSS Pilot is a guarantee of any such Phase 2 Amendment, including any Amendment for the design, development, implementation, maintenance and/or support of a DMS for IHSS.

4. First grammatical paragraph of Paragraph 5 (Scope of Work) of the Base Agreement is deleted in its entirety and replaced with revised grammatical paragraph of Paragraph 5 amended to read as follows:

5. **SCOPE OF WORK**

In exchange for County's payment to Contractor of the fees and any applicable taxes arising under the Agreement and invoiced by Contractor, Contractor shall on a timely basis (a) provide, complete, deliver and implement all Work set forth in this Agreement and in Exhibits A (Statement of Work) and D (System Maintenance), including, but not limited to, System Software License, System Hardware, System Implementation services, System Maintenance, IHSS Pilot and any Optional Work; (b) grant to County a limited License to any Work Product, as specified in Paragraph 10.1.5 (Work Product) and (c) grant ownership to County of the Components of the System Solution described in Paragraph 10.1.4 (System Solution), subject to the provisions of Paragraph 10.1 (System Ownership). Contractor shall perform all such tasks, subtasks, deliverables, goods, services and other Work in accordance with Exhibit A (Statement of Work) with all Attachments thereto and Exhibit D (System Maintenance) with all Schedules thereto at the applicable rates and prices specified in Exhibit B (Schedule of Payments) with all Schedules thereto.

5. Paragraph 8.2 (System Implementation) of the Base Agreement is deleted in its entirety and replaced with revised Paragraph 8.2 amended to read as follows:

8.2 SYSTEM IMPLEMENTATION

Contractor shall provide System Implementation services in accordance with Exhibit A (Statement of Work), with all Attachments thereto, and the Base Agreement in exchange for County's payment of the applicable Implementation Cost. The

IN WITNESS WHEREOF, Contractor has executed this Amendment Number One, or caused it to be duly executed, and the County of Los Angeles, by order of its Board of Supervisors, has caused this Amendment to be executed the day, month and year first above written.

COUNTY OF LOS ANGELES

By _____
MAYOR, Board of Supervisors

CONTRACTOR: SAS INSTITUTE, INC.

By _____ 11/17/2010
Signature

Victoria P. Clayton
Senior Manager
Contracts Administration
SAS Institute Inc.

Title _____
Title

ATTEST:

SACHI A. HAMAI
Executive Officer-Clerk, Board of Supervisors

By _____
Deputy

JIA LEGAL

APPROVED AS TO FORM:

ANDREA SHERIDAN ORDIN
County Counsel

By _____
VICTORIA MANSOURIAN
Deputy County Counsel

Implementation Cost shall include all applicable License Fees, any and all cost of System Implementation and all Work provided by Contractor for the IHSS Pilot, including all tasks, subtasks, deliverables, goods, services and other Work set forth in such Exhibit A (Statement of Work), as specified in Exhibit B (Schedule of Payments). The System Implementation Cost shall not exceed the amount specified in such Exhibit B (Schedule of Payments).

6. The scope of Work for the Agreement is revised to include the IHSS Pilot by deleting Exhibit A (Statement of Work) in its entirety and replacing it with revised Exhibit A (Statement of Work), attached hereto as Attachment 1 and incorporated herein by reference.

7. The Schedule of Payments is adjusted to account for the added IHSS Deliverable by deleting Exhibit B (Schedule of Payments) in its entirety and replacing it with revised Exhibit B (Schedule of Payments), attached hereto as Attachment 2 and incorporated herein by reference.

8. This Amendment Number One shall be effective on the date of approval by County's Board of Supervisors.

9. Except as provided in this Amendment Number One, all other terms and conditions of the Agreement shall remain unchanged and in full force in effect.

/
/
/

EXHIBIT A

STATEMENT OF WORK

FOR

DATA MINING SOLUTION (DMS)

REVISED UNDER AMENDMENT NUMBER ONE

DECEMBER 2010

TABLE OF CONTENTS

1. INTRODUCTION AND OVERVIEW 1

1.1 PROJECT BACKGROUND 1

1.2 PROJECT OBJECTIVES 2

2. INSTRUCTIONS 2

3. SCOPE OF WORK 3

TASK 1 – PROJECT ADMINISTRATION 3

SUBTASK 1.1 – DEVELOP PROJECT CONTROL DOCUMENT 3

DELIVERABLE 1.1 – PROJECT CONTROL DOCUMENT 3

SUBTASK 1.2 – PREPARE STATUS REPORTS AND CONDUCT CONFERENCES 5

DELIVERABLE 1.2 – STATUS REPORTS AND CONFERENCES 5

SUBTASK 1.3 – ESTABLISH PROJECT OFFICE 6

DELIVERABLE 1.3 – PROJECT OFFICE CERTIFICATION 6

SUBTASK 1.4 – PROVIDE WEB-SERVER HOSTING 6

DELIVERABLE 1.4 – WEB-SERVER HOSTING CERTIFICATION 7

TASK 2 – ANALYZE SYSTEM REQUIREMENTS 7

DELIVERABLE 2 – ASSESSMENT AND REQUIREMENTS DOCUMENT 8

TASK 3 – SYSTEM SETUP 8

SUBTASK 3.1 – DEVELOP DESIGN SPECIFICATIONS DOCUMENT 8

DELIVERABLE 3.1 – DESIGN SPECIFICATIONS DOCUMENT 9

SUBTASK 3.2 – SPECIFY SYSTEM CONFIGURATION 9

DELIVERABLE 3.2 – SYSTEM CONFIGURATION PLAN AND CERTIFICATION 9

SUBTASK 3.3 – SETUP SYSTEM HARDWARE 9

DELIVERABLE 3.3 – SYSTEM HARDWARE CERTIFICATION 10

TASK 4 – IMPLEMENT SYSTEM SOFTWARE 10

Revised Under Amendment Number One

SUBTASK 4.1 – INSTALL AND CONFIGURE SYSTEM SOFTWARE....10
DELIVERABLE 4.1 – SYSTEM SOFTWARE CERTIFICATION....10
SUBTASK 4.2 – DEVELOP DATA QUALITY AND INTEGRATION SOLUTION....10
DELIVERABLE 4.2 – DATA QUALITY AND INTEGRATION SOLUTION....11
SUBTASK 4.3 – DEVELOP PREDICTIVE DATA MINING MODELS....12
DELIVERABLE 4.3 – PREDICTIVE DATA MINING MODELS....13
SUBTASK 4.4 – DEVELOP BASELINE INTERFACES....13
DELIVERABLE 4.4 – BASELINE INTERFACES....13
SUBTASK 4.5 – DEPLOY FRAUD SOLUTION PLATFORM....14
DELIVERABLE 4.5 – DEPLOYED FRAUD SOLUTION PLATFORM....14
TASK 5 – SYSTEM TESTING....14
SUBTASK 5.1 – CONDUCT SYSTEM INTEGRATION TEST....15
DELIVERABLE 5.1.1 – SYSTEM INTEGRATION TEST PLAN....16
DELIVERABLE 5.1.2 – SYSTEM INTEGRATION TEST RESULTS....16
SUBTASK 5.2 – CONDUCT USER ACCEPTANCE TEST....17
DELIVERABLE 5.2.1 – USER ACCEPTANCE TEST PLAN....18
DELIVERABLE 5.2.2 – USER ACCEPTANCE TEST STATUS REPORTS....19
DELIVERABLE 5.2.3 – USER ACCEPTANCE TEST CERTIFICATION....19
TASK 6 – FINAL ACCEPTANCE....20
SUBTASK 6.1 – TRANSITION TO PRODUCTION ENVIRONMENT....20
DELIVERABLE 6.1 – SYSTEM PRODUCTION USE....20
SUBTASK 6.2 – CONDUCT PERFORMANCE VERIFICATION....20
DELIVERABLE 6.2.1 – PERFORMANCE VERIFICATION REPORT....20
DELIVERABLE 6.2.2 – FINAL ACCEPTANCE....21
TASK 7 – TRAINING....21

SUBTASK 7.1 – PROVIDE TRAINING 21
DELIVERABLE 7.1 – TRAINED COUNTY STAFF 22
TASK 8 – SYSTEM DOCUMENTATION 22
SUBTASK 8.1 – PROVIDE SYSTEM DOCUMENTATION 22
DELIVERABLE 8.1 – SYSTEM DOCUMENTATION 22
TASK 9 – SYSTEM MAINTENANCE 22
SUBTASK 9.1 – PROVIDE SYSTEM MAINTENANCE PLAN 22
DELIVERABLE 9.1 – SYSTEM MAINTENANCE PLAN 23
SUBTASK 9.2 – PROVIDE SYSTEM MAINTENANCE 23
DELIVERABLE 9.2 – SYSTEM MAINTENANCE 23
SUBTASK 9.3 – PROVIDE DMS TRANSITION 24
SUBTASK 9.3.1 – PROVIDE DMS TRANSITION PLAN 24
DELIVERABLE 9.3.1 – DMS TRANSITION PLAN 24
SUBTASK 9.3.2 – PROVIDE DMS TRANSITION SUPPORT 24
DELIVERABLE 9.3.2 – DMS TRANSITION SUPPORT 25
TASK 10 – OPTIONAL WORK 25
SUBTASK 10.1 – PROVIDE SOFTWARE ENHANCEMENTS 25
DELIVERABLE 10.1 – SOFTWARE ENHANCEMENTS 26
SUBTASK 10.2 – PROVIDE PROFESSIONAL SERVICES 26
DELIVERABLE 10.2 – PROFESSIONAL SERVICES 26
TASK 11 – IHSS PILOT 26
SUBTASK 11.1 – IMPLEMENT IHSS PILOT 27
DELIVERABLE 11.1 – IHSS PILOT 29

1. INTRODUCTION AND OVERVIEW

This Exhibit A (Statement of Work) describes the tasks, subtask, deliverables and other Work ("SOW") to be provided by Contractor to County as part of the DMS Project, including System Implementation, System Maintenance and any Optional Work, which shall meet the requirements of this Agreement, including Attachment A.1 (System Requirements) and Exhibit D (System Maintenance). Contractor shall perform, complete, and deliver all Work, however denoted, as set forth in this SOW, or in any attached or referenced document in full compliance with the Agreement.

1.1 PROJECT BACKGROUND

County's Chief Executive Office ("CEO") and Department of Public Social Services ("DPSS") conducted a pilot ("Pilot") between May and November of 2008 to determine the business value of implementing data mining software for the purposes of detection and prevention of public assistance fraud. The application of data mining software was limited to three primary predictive models and the analysis applied only to DPSS' Stage 1 Child Care Program for CalWORKs participants. In order to demonstrate the predictive capacities of the data mining software, the pilot used DPSS' administrative records on child care providers between January 2001 and December 2007. The software's fraud analysis capability was demonstrated in three categories: (1) cases with characteristics placing them at a high risk for fraud; (2) cases showing significant anomalies; (3) potential fraud rings and collusion activities.

The data mining Pilot achieved an 85 percent accuracy rate in detecting collusive fraud rings. The results of the Pilot show that the use of data mining software as a fraud detection tool would have enabled cost avoidance in three areas: (1) new fraud referrals, resulting in an annual gross cost avoidance of at least $2.2 million; (2) early detection of fraud, resulting in an annual gross cost avoidance of $1.6 million; (3) increased efficiency, resulting in an annual gross cost avoidance of $3 million. The total annual gross cost avoidance in these areas would, therefore, have been at least $6.8 million. Furthermore, the results indicated that the cost avoidance could possibly increase with additional data sources and further utilization of additional predictive fraud detection models not included in the Pilot.

On January 6, 2009 County's Board of Supervisors passed a motion that directed the CEO to develop a strategy for the implementation of data mining technology to target fraud in the CalWORKs Stage 1 Child Care program. The CEO reported back to the Board with a recommendation to procure the necessary technology through a competitive procurement process. The present RFP embodies County's effort to solicit competitive bids from potential vendors.

1.2 PROJECT OBJECTIVES

The general objective of this Project is to implement a technology solution ("DMS Solution"), which will assist in the detection and prevention of fraudulent activities among individuals or groups participating in County's Stage 1 Child Care Program for CalWORKs participants.

This Statement of Work consists of instructions, tasks, subtasks, deliverables, goods, services and other work (hereinafter "Work") and, unless specified otherwise, includes a Project Schedule. Capitalized terms used in this Statement of Work without definitions have the meanings given to such terms in the body of the Agreement. All Work under this Agreement shall be performed at the rates and fees set forth in Exhibit B (Schedule of Payments).

Contractor shall perform, complete and deliver all Work, however denoted, as set forth in this Statement of Work. Also defined herein are those Tasks and Subtasks that involve participation of both Contractor and County. Unless otherwise specified as an obligation of County, Contractor shall perform all Tasks and Subtasks and provide all Deliverables as defined herein. For the purpose of this Agreement, a Deliverable shall be deemed complete upon County's approval and acceptance thereof subject to the provisions of the Agreement, irrespective of the number of tries it takes Contractor to provide a successful Deliverable.

Contractor shall provide a comprehensive child care fraud platform and solutions including the installation and configuration of the necessary data mining software, the provision of data quality and data integration solutions, the development of analytic models and the provision of other services to implement Los Angeles County's Data Mining Solution as necessary to meet the technical, functional and business requirements set forth in Attachment A.1 (System Requirements). The general objective of this Project is to implement a technology solution which will assist in the detection and prevention of fraudulent activity among individuals or groups participating in County's Stage 1 Child Care Program for CalWORKs participants.

Unless otherwise specified herein, the Tasks, Subtasks and Deliverables in this Statement of Work are subject to the System Requirements and shall be subject to County approval, as set forth in Paragraph 5 (Scope of Work) of the Base Agreement.

2. INSTRUCTIONS

Contractor shall submit each Deliverable to County in one (1) or more hard cover 8 ½ by 11 inch three-ring binders, single sided sheets, 12 point Arial or New Times Roman font, with separated and partitioned sections as required.

Contractor shall submit each Deliverable and provide an electronic copy in the Microsoft Office Suite version specified by County.

3. SCOPE OF WORK

This section describes the primary Work that Contractor shall perform, which includes:

1. **Task 1 - Project Administration**
2. **Task 2 – Analyze System Requirements**
3. **Task 3 – System Setup**
4. **Task 4 – Implement System Software**
5. **Task 5 – System Testing**
6. **Task 6 – Final Acceptance**
7. **Task 7 - Training**
8. **Task 8 – System Documentation**
9. **Task 9 – System Maintenance**
10. **Task 10 – Optional Work**
11. **Task 11 –In-Home Supportive Services (IHSS) Pilot**

To accomplish the Work, Contractor shall work collaboratively with key stakeholders, including Users, and State and federal governments and other external agencies whose System Data will interface with the DMS.

TASK 1 – PROJECT ADMINISTRATION

Contractor shall establish a Project Office to provide full project management, planning, monitoring, supervision, tracking and control for all Project activities during the term of the Agreement. Contractor shall employ project management standards and practices in the performance of all Work.

SUBTASK 1.1 – DEVELOP PROJECT CONTROL DOCUMENT

Contractor shall review the System Requirements with County's Project Manager. Based upon that review, Contractor shall prepare a Project Control Document ("PCD") and submit it for written approval to County's Project Manager. Any subsequent significant modifications to the PCD shall be subject to the provisions of the body of the Agreement.

Contractor's Project Manager and County's Project Manager shall report Project status on a regular basis as required by County and shall participate in status meetings monthly, or as otherwise agreed to by County and Contractor.

DELIVERABLE 1.1 – PROJECT CONTROL DOCUMENT

Contractor shall provide the PCD, which, at a minimum, shall include the following information:

1. All Work described in this Statement of Work and elsewhere in the Agreement;
2. A Project Work Plan (in this Exhibit A "PWP"), developed in County-specified version of Microsoft Project, which shall include:
   a. All Deliverables, including those referenced in the Schedule of Payments,
   b. All Tasks, Subtasks, and other Work,
   c. Associated dependencies among Deliverables, Tasks, Subtasks and other Work,
   d. Resources assigned to each Deliverable, Task, Subtask and other Work;
   e. Start date and date of completion for each Deliverable, Task, Subtask and other Work,
   f. Proposed County review period for each Deliverable, and
   g. Proposed milestones;
3. Identification of all Contractor's Key Personnel;
4. A comprehensive Deficiency Management Plan (in this Exhibit A "DMP"), documenting the approach to Deficiency management, including methodology, recommended tool(s) and escalation process;
5. Approach to Project communications;
6. A comprehensive Risk Management Plan (in this Exhibit A "RMP"), documenting the approach to risk analysis (e.g., the evaluation of risks and risk interactions to assess the range of possible project outcomes), risk mitigation (e.g., the identification of ways to minimize or eliminate project risks) and risk tracking/control (e.g., a method to ensure that all steps of the risk management process are being followed and, risks are being mitigated effectively). The RMP shall have a clearly established process for problem escalation and shall be updated, as needed, through the term of the Agreement;
7. Initial identification of risks that may impact the timely delivery of the DMS, probability and potential impact, recommended mitigation strategy and impact of implementing any risk mitigation strategies;
8. Project staffing and resource management plan; and
9. Configuration and Change Management Plan (in this Exhibit A "CCMP"). Changes, in this context, refer to changing the functionality of or adding additional functionality (e.g., changes to the project scope) to any DMS Component. The approach shall ensure that the impacts and rationale for each change are analyzed and coordinated prior to being approved. The CCMP may vary from item to item, as determined by County's Project Director.

Contractor shall prepare a Project Work Plan in accordance with Subtask 1.1 – Develop Project Control Document. The PCD shall provide for the System installation and configuration plan, including as it relates to the System Software and System Environment, implementation of the System Software, development of data quality and data integration tasks (also "DQ&I"), development of fraud detection models, development of the end-user Interfaces, system administration and security, technical support and knowledge transfer, and related Documentation. The PCD may be modified only if such modification has been approved in advance in writing by County's Project Manager.

SUBTASK 1.2 – PREPARE STATUS REPORTS AND CONDUCT CONFERENCES

Contractor shall provide ongoing Project administration, which shall include, but not be limited to, the following:

1. DMS monthly status reports; and
2. Updates to the PCD, including PWP and RMP.

Contractor's Project Manager shall provide full project management and control of Project activities. Contractor's Project Manager shall present to County's Project Manager a written Status Report (in this Exhibit A "Status Report") documenting Project progress, plans and outstanding issues. Contractor's Project Manager shall meet with or conduct a status update phone call with County's Project Manager on a weekly basis, or as otherwise agreed to by County and Contractor, to review Project Status Reports and any related matters. All variances shall be presented to County for approval at the status meeting. The first report shall be presented to County's Project Manager one (1) week following the Effective Date in a format approved by County.

This Subtask shall include, but not be limited to:

1. Project planning and direction;
2. Contractor staffing and personnel matters, including management of Contractor technical staff;
3. Evaluation of results and status reporting;
4. Incorporation of County's System Requirements, including all business, functional and technical requirements;
5. Incorporation of required software modification, if any; and
6. Management and tracking of all issues and their resolution.

Contractor's Project Manager and County's Project Manager shall report Project status on a regular basis and shall participate in monthly status meetings. The project and reporting system shall include, but not be limited to, the following components:

1. Kick off meeting;
2. Updated PCD; and
3. Status Reports and meetings or teleconferences.

The Project Status Reports prepared by Contractor's Project Manager pursuant to this Subtask 1.2 – Prepare Status Reports and Conduct Conferences shall be used as the mechanism for Contractor to report any Project risks or problems identified as part of the implementation process.

DELIVERABLE 1.2 – STATUS REPORTS AND CONFERENCES

Contractor's Project Manager shall prepare and present to County's Project Manager a written Status Report documenting project progress, plans, and outstanding issues. Contractor's Project Manager shall meet with or conduct a status update phone call with County's Project Manager at least monthly, or as otherwise agreed to by County and Contractor, to review these Project Status Reports and any related matters. All variances shall be presented for approval by County at the status conferences. The first report shall

be presented to County's Project Manager one (1) week following the Effective Date in a format approved by County.

SUBTASK 1.3 – ESTABLISH PROJECT OFFICE

Contractor shall establish and maintain throughout the term of this Agreement a local office to be utilized solely for the purpose of the Project and this Agreement ("Project Office"). Contractor shall provide necessary hardware, software and other equipment for the Project Office. In addition, Contractor shall meet the following minimum requirements:

A. Provide a Project Office within a forty (40) mile radius of the Chief Executive Office (CEO) - Service Integration Branch (SIB) located at 222 S. Hill Street, 5th Floor, Los Angeles, CA 90012;

B. Provide a Help Desk utilizing SAS' existing processes and procedures;

C. Provide conference facilities and ample space to conduct JAD sessions for Contractor development team and County use. These conference facilities shall include appropriate furniture and equipment such as white boards, PC projectors, and conference phones, etc.;

D. Provide dedicated space and equipment for training sessions and demonstrations;

E. Provide security, building maintenance, office management, heating and air-conditioning and parking for County staff, Contractor staff, Subcontractors, Joint Application Development (JAD) session participants and others as appropriate; and

F. Provide adequate electrical lines, isolated grounded data drops, phone ports, LANs and connectivity to the Los Angeles County Enterprise Network (LANet/EN), Internet access, County Intranet access, DPSS e-mail or other e-mail access using software versions which are compatible to County's current usage.

DELIVERABLE 1.3 – PROJECT OFFICE CERTIFICATION

Contractor shall certify to County, in writing on corporate letterhead, signed by Contractor's Project Director, that the Project Office has been established and meets all of the applicable Specifications in accordance with Subtask 1.3 – Establish Project Office.

SUBTASK 1.4 – PROVIDE WEB-SERVER HOSTING

Contractor shall provide web-server hosting for both Production Server and Back-Up Server ("Web-Server Hosting"). The Web-Server Hosting site for the Production Server shall be located within the forty-eight (48) contiguous United States and Back-Up server shall be located within the State of California. Contractor shall be fully responsible for securing and maintaining both Web-Server Hosting sites throughout the term of this Agreement. Contractor shall provide necessary and be responsible for all hardware, software and other equipment for Web-Server Hosting.

DELIVERABLE 1.4 – WEB-SERVER HOSTING CERTIFICATION

Contractor shall certify to County, in writing on corporate letterhead, signed by the Contractor's Project Director, that the Web-Server Hosting sites for both Production Server and Back-Up Server have been established and meet all applicable Specifications for the System.

TASK 2 – ANALYZE SYSTEM REQUIREMENTS

Contractor, with assistance and cooperation from County's Project Manager, shall analyze and validate the System Requirements for the implementation of the DMS for the prevention of child care fraud, including business, operational, functional, technical and other requirements relating to the System Requirements.

This Task includes, but is not limited to, the following:

A. Reviewing the current processes, System Requirements and all other pertinent material, which County may provide, that is related to Stage 1 Child Care Program for CalWORKs participants;

B. Conducting clarification sessions with County's staff and County designated key Users of the System to ensure a mutual understanding of the System Requirements;

C. Understanding the business environment, organizational and Project objectives and requesting additional information, as appropriate, to ensure a thorough understanding of the System Requirements;

D. Providing and utilizing an environmentally safe and energy efficient System Hardware, for this Agreement;

E. Assessing the System Environment, security and networking requirements for the implementation of the DMS;

F. Establishing development, test and production environments necessary for the deployment of the DMS;

G. Assessing the System Hardware requirements for the Production Server and the Back-Up Server Web-Server Hosting necessary for the implementation of the DMS;

H. Assessing the System Software for the implementation of the DMS;

I. Establishing a web enabled browser-based access ("Web Services") from County workstations, laptops and other devices;

J. Establishing security standards for the DMS that are consistent with County security requirements (e.g., those documented in the Los Angeles County Board of Supervisors Policy Manual, such as Policy Number 6.100 et seq.);

K. Identifying network security architecture, including approach, which provides single sign-on, minimizes password administration and optimizes security of the DMS data integrity and access;

L. Establishing Business Continuity and Back-Up Server approach, including the effect on the DMS performance requirements; and

M. Documenting the System general requirements, security requirements, operational requirements, technical requirements and minimum business requirements, including subject areas, information needs, user profiles, IT standards, processing, storage and response time requirements, personnel and resources available, data sources and source systems, data quality issues, security considerations, access profiles, dimensional models, load and update requirements, training needs and System architecture.

County staff will be participating in the System Requirements meetings and will be available to provide feedback to Contractor team during the Assessment and Requirements Document (in this Exhibit A "A&R Document") review.

DELIVERABLE 2 – ASSESSMENT AND REQUIREMENTS DOCUMENT

Contractor shall provide an Assessment and Requirements Document, prepared by Contractor pursuant to Task 2 – Analyze System Requirements, that will address the specific implementation requirements of the DMS relating to all items listed in such Task 2 – Analyze System Requirements, including System Software, System Hardware, System Network accessibility, System security, data sources, data quality and data integration structure. The A&R Document will serve as the foundation for all Work to be performed by Contractor under the Agreement.

TASK 3 – SYSTEM SETUP

SUBTASK 3.1 – DEVELOP DESIGN SPECIFICATIONS DOCUMENT

Contractor shall work with County staff to create the Project design specifications document ("Design Specifications Document"), based on the requirements specified under Task 2 – Analyze System Requirements, and in the following areas:

1. Data Specifications (input/output sources);
2. Data profiling procedures;
3. Data quality design (standardization/validation/reduplication/matching logic);
4. Geo-coding and address verification procedures;
5. Data model and metadata environment design;
6. Data Repository;
7. Extract, Transform, Load (ETL);
8. Development of Predictive Data Mining Models;
9. Evaluation of Predictive Data Mining Models;
10. Deployment of Predictive Data Mining Models;
11. Deployment of End-User Interfaces;
12. Scheduling and security processes;
13. Technical architecture specification; and
14. Test Plans.

County will be responsible for ensuring that Contractor's team has complete access to appropriate County staff, facilities and information pertaining to data dictionaries, data

models, network diagrams, etc. for all data sources, as well as providing feedback to Contractor's team during the Design Specifications Document review.

DELIVERABLE 3.1 – DESIGN SPECIFICATIONS DOCUMENT

Contractor shall submit the project Design Specifications Document, which will document and address the following:

1. All items under Subtask 3.1 – Develop Design Specifications Document and System Requirements specified in Task 2 – Analyze System Requirements;
2. Various data sources and relevant fields;
3. Periodicity of update;
4. Methodology to extract, transform and load the analytic data;
5. Scheduling of jobs to run automatically;
6. Data quality procedures;
7. Data integration procedures;
8. Physical and logical directory path locations;
9. Format library specifications, and update tools;
10. Predictive Data Mining Models;
11. End-User Interfaces; and
12. Security administration elements.

SUBTASK 3.2 – SPECIFY SYSTEM CONFIGURATION

Contractor shall specify and provide County with the recommended configuration Specifications for the System, including System Hardware, System Software, System Network and Third Party Software to be provided by Contractor, which shall be documented in Attachment A.2 (System Configuration). Additionally, Contractor will provide County with recommendations for proposed configuration specifications for Contractor provided System Software that will be loaded and configured on County Hardware which is located at the SIB's site.

DELIVERABLE 3.2 – SYSTEM CONFIGURATION PLAN AND CERTIFICATION

Contractor shall provide a plan with the recommended configuration specifications for the System in accordance with Subtask 3.2 – Specify System Configuration. Contractor shall provide to County, in writing on corporate letterhead, signed by the Contractor's Project Director, certification that such System configuration shall meet all of the Specifications for the System, including all System Requirements, in accordance with Subtask 3.2 – Specify System Configuration.

SUBTASK 3.3 – SETUP SYSTEM HARDWARE

Contractor shall install, configure and test all System Hardware at the Production Server and the Back-Up Web-Server Hosting sites in accordance with the System configuration Specifications provided by Contractor pursuant to Subtask 3.2 – Specify System Configuration.

DELIVERABLE 3.3 – SYSTEM HARDWARE CERTIFICATION

Contractor shall certify to County, in writing on a corporate letterhead, signed by the Contractor's Project Director, that all System Hardware has been installed, configured and tested, at the Production Server and the Back-Up Server, Web-Server Hosting sites and meets all of the Specifications for the System.

TASK 4 – IMPLEMENT SYSTEM SOFTWARE

SUBTASK 4.1 – INSTALL AND CONFIGURE SYSTEM SOFTWARE

Contractor shall install and configure the System Software, including Core Application with all Contractor-developed Baseline Interfaces, if any, and Third Party Software, in accordance with the System Requirements and the Specifications specified herein.

The installation and configuration tasks under this Subtask 4.1 – Install and Configure System Software shall include, without limitation:

1. Review of System Software configuration;
2. Installation of the System Software;
3. Initialization of the foundation repositories;
4. Initialization of the directory profile and hierarchy;
5. Installation of applicable client applications;
6. Configuring the installed System Software, initial security policies, initial environments and initial metadata repositories;
7. Performing validation tests using data selected by Contractor to verify proper functionality; and
8. Providing County's system administrator with installation knowledge transfer (in this Exhibit A "Knowledge Transfer"), describing the basic architecture, configuration and interaction of the System Software.

DELIVERABLE 4.1 – SYSTEM SOFTWARE CERTIFICATION

Contractor shall certify to County, in writing on a corporate letterhead, signed by Contractor's Project Director, that the System Software has been successfully installed and configured in accordance with Subtask 4.1 – Install and Configure System Software and is operating properly and meets all of the Specifications. Contractor shall prepare and deliver to County a certification report that shall include, without limitation, (i) the summary of the System Software installation and configuration process, including Knowledge Transfer, and (ii) the documentation on the System Software setup and basic troubleshooting.

SUBTASK 4.2 – DEVELOP DATA QUALITY AND INTEGRATION SOLUTION

Contractor shall work in conjunction with County staff to develop Data Quality and Integration solution (hereinafter "DQ&I") based on the Design Specifications Document, as agreed upon in Subtask 3.1 – Develop Design Specifications Document and as required hereunder to meet the System Requirements.

Development of the DQ&I Solution shall include without limitation the following activities:

1. Connecting/accessing to all types of data sources that will be available in different data formats including unstructured text documents and internet sources;
2. Defining, implementing and automating periodic extracts from the source systems based on latency requirements;
3. Profiling all data sources to analyze and assess the quality of data by identifying discrepancies and inaccuracies through outlier detection, statistical analysis, data validation, pattern analysis, frequency analysis, relationship analysis, business rule validation and metadata analysis;
4. Verification and cleansing of data based on the profiling results to improve the accuracy of data by correcting errors and discrepancies;
5. Standardizing data by transforming inconsistent data into one common representation by applying customized rules, parsing engines and standardization schemes; transforming data fields using data transformation libraries or user-written codes;
6. De-duplication of data to eliminate duplicate records by applying customizable sophisticated fuzzy matching techniques;
7. Developing match criteria between several data sources without unique identifiers using sophisticated customizable fuzzy matching algorithms and incorporating multinational data phonetics;
8. Creating and implementing rules based consolidation of matched client records to provide consistent information across data sources;
9. Enhancing data by verifying addresses and company names and geocoding all addresses to add X-Y coordinates for mapping purposes and calculating distances;
10. Creating seamless data quality and integration jobs through an interactive data quality and integration development environment utilizing a graphical user interface to automate the data integration process and design logical process workflows;
11. Integrating all data sources prepared by the DQ&I Solution into analytic data tables to be used by predictive data mining models of the fraud platform;
12. Completing social network analysis data preparation;
13. Generating a common knowledge base and documentation for data access, profiling, rules generation, data matching, consolidation and data integration through a common metadata environment; and
14. Managing the metadata environment through a common management interface.

DELIVERABLE 4.2 – DATA QUALITY AND INTEGRATION SOLUTION

Contractor shall work in conjunction with County staff to complete development of the DQ&I Solution based on the Design Specifications Document in accordance with Subtask 4.2 – Develop Data Quality and Integration Solution. Contractor shall also provide to County's Project Manager a written report documenting the results of the successfully developed DQ&I Solution, which will be available for User Acceptance Test (also "UAT"), as specified in Subtask 5.2 – Conduct User Acceptance Test.

SUBTASK 4.3 – DEVELOP PREDICTIVE DATA MINING MODELS

Contractor shall work in conjunction with County staff to develop Predictive Data Mining Models (also "Predictive Models" and "Analytics Models") based on the Design Specifications Document, as agreed upon in Subtask 3.1 – Develop Design Specifications Document and as required hereunder to meet the System Requirements.

Analytic Predictive Models shall include, but not be limited to:

- Predicting new child care fraud referrals for clients and providers based on historical fraud patterns using data mining techniques;
- Identifying information anomalies related to child care clients and providers based on internal and external data sources; and
- Identifying new fraud rings by assessing colluding relationships between childcare clients and providers.

This task will involve the development of analytic models solution, which will include the following activities:

1. Creating a development environment where Predictive Models will be developed and built;
2. Developing and building Predictive Models using an easy-to-use graphical user interface that utilizes an interactive process flow environment and supports a complete documentation trail;
3. Accessing the analytic data tables to be used by the Predictive Models;
4. Exploring data sources using descriptive statistics with interactive plots;
5. Managing data tables interactively such as filtering outliers and merging datasets;
6. Sampling and partitioning data for the development of Predictive Models;
7. Selecting and transforming variables for Predictive Models;
8. Inputting missing values for selected model variables;
9. Employing customized data preparation and transformation tasks;
10. Employing numerous advanced data mining algorithms for structured data to build Predictive Models;
11. Comparing different predictive models using visual model assessment and validation metrics where predictive results are displayed side-by-side for easy comparison;
12. Determining model assessment and validation criteria for selecting optimal models;
13. Selecting Predictive Models based on assessment and validation criteria;
14. Generating scoring code for embedded deployment in the analytic data tables;
15. Managing the analytic environment through a common metadata environment;
16. Transforming data tables from the analytic data tables into a data structure suitable for service network analysis;
17. Applying analytic methods for identifying high risk elements in the service network of participants and providers;
18. Presenting service network structure in an interactive graphical user interface;

19. Developing text mining methods to incorporate unstructured text sources;
20. Developing forecasting and statistical analysis tools to predict fraud patterns and trends;
21. Querying specific high risk participants and providers based on the outcomes of the analytic models; and
22. Scoring analytic models and generates alerts on high risk participants and providers.

DELIVERABLE 4.3 – PREDICTIVE DATA MINING MODELS

Contractor shall work in conjunction with County staff to complete development of Predictive Data Mining Models in accordance with Subtask 4.3 – Develop Predictive Data Mining Models. Contractor shall also provide to County's Project Manager a written report documenting the results of the successfully Predictive Data Mining Models, which will be available for the UAT, as specified in Subtask 5.2 – Conduct User Acceptance Test.

SUBTASK 4.4 – DEVELOP BASELINE INTERFACES

Contractor shall work in conjunction with County staff to develop end-user Baseline Interfaces (also "Portals") based on the Design Specifications Document, as agreed upon in Subtask 3.1 – Develop Design Specifications Document and as required hereunder to meet the System Requirements.

Development of the Baseline Interfaces will include the following activities:

1. Developing the web-based end user interface to surface the results of the fraud analytics in various ways including:
   a. Information portal,
   b. Dashboards,
   c. Scorecards,
   d. Reporting interfaces,
   e. OLAP cubes,
   f. Data visualization interfaces, and
   g. Network visualization interfaces;
2. Integrating a case management interface to organize and collect information about fraud cases under investigation; and
3. Developing an Interface to keep the investigation history of all cases that can be queried easily by end-users.

DELIVERABLE 4.4 – BASELINE INTERFACES

Contractor shall work in conjunction with County staff to complete development of end-user Baseline Interfaces in accordance with Subtask 4.4 – Develop Baseline Interfaces. Contractor shall also provide to County's Project Manager a written report documenting the results of the successfully development of the end-user Baseline Interfaces, which will be available for the UAT, as specified in Subtask 5.2 – Conduct User Acceptance Test.

SUBTASK 4.5 – DEPLOY FRAUD SOLUTION PLATFORM

Contractor shall work in conjunction with County staff to deploy the child care fraud solution platform based on the Design Specifications Document, as agreed upon in Subtask 3.1 – Develop Design Specifications Document and as required hereunder to meet System Requirements.

Deployment of fraud solution platform will include the following activities:

1. Deployment of the fraud detection platform composed of all fraud solutions in a Test Environment;
2. Configuration of the management of all Predictive Models using a model management interface;
3. Configuration of System administration and access restrictions to analytic data tables for various user groups;
4. Configuration of the work flow environments for various user groups; and
5. Presentation of alerts, risk scores, service networks and case details to end users in an integrated graphical user interface;
6. System Access shall be provided on a 24 hours per day, 7 days per week, 365/366 days per year basis for the term of this Agreement.

DELIVERABLE 4.5 – DEPLOYED FRAUD SOLUTION PLATFORM

Contractor shall work in conjunction with County staff to successfully complete deployment and configuration of the fraud solution platform in accordance with Subtask 4.5 – Deploy Fraud Solution Platform.

TASK 5 – SYSTEM TESTING

This Task 5 – System Testing describes the System Tests to be conducted by Contractor, including the System Integration Test (also "SIT") and the User Acceptance Test ("UAT"). Each System Test shall be conducted at the conclusion of each major set of testing activities.

Contractor shall perform the following Work relating to System Tests during this Task 5 – System Testing:

A. Creating a Test Environment to execute all stages of System testing, including the SIT and the UAT;

B. Developing test plans for System Tests ("Test Plan(s)") and procedures for all stages of System Testing, including System Integration Test and UAT, that ensures all System Requirements and Specifications are being tested and verified;

C. Conducting the UAT to test all stages of System Implementation, evaluating results, correcting problems and re-testing; and

D. Developing, maintaining and executing the System, as applicable, at all stages of System Testing.

SUBTASK 5.1 – CONDUCT SYSTEM INTEGRATION TEST

System Integration Test ensures that all facets of the DMS work together as a cohesive whole. At the conclusion of this Subtask 5.1 – Conduct System Integration Test, Contractor shall have verified that the complete DMS operates in compliance with the System Requirements and the Specifications.

Contractor shall designate a test group to perform all testing. This test group shall include functional, operational, technical and training representatives, as needed, and may include County staff, as approved by County's Project Director.

Contractor shall develop the Test Plan in accordance with Deliverable 5.1.1 – System Integration Test Plan, which shall contain elements specific to the System Integration Test, including:

1. Thorough testing of all DMS Components;
2. Thorough testing of all DMS Interfaces, both internal and external, including host-to-host communications and end-user Baseline Interfaces; and
3. Verification of the correct generation of all errors messages, warnings or other messages as designed.

Contractor shall ensure that all processing environments utilized for a given test shall be restored to its original condition prior to the start of the given test, including all System files and data that may be affected or changed during execution of the test. Contractor shall complete the System Integration Test performing the following tasks:

1. Performance and Load Testing – Contractor shall demonstrate that the DMS can successfully meet the System Performance Requirements under full load conditions.
2. Security Testing – Contractor shall demonstrate that the DMS can successfully meet all County security requirements.
3. Business Continuity and Back-Up Server testing – Contractor shall demonstrate that the DMS can successfully continue to operate on the Back-Up Server as required by the Business Continuity and Back-Up Server provision of Exhibit D (System Maintenance).
4. Data Interface Testing – Contractor shall demonstrate that all Interfaces are working properly and adhere to the System Requirements and Specifications.
5. Cycle Testing – Contractor shall conduct cycle tests where each cycle processing is dependent upon previous processing in the DMS flow. Contractor shall conduct cycle tests to simulate the DMS operation in Production Use in accordance with the System Requirements and Specifications.
6. Reports Testing – Contractor shall verify the correct layouts, format and distribution of all DMS generated reports with supporting procedures.
7. End User Interfaces – Contractor shall demonstrate that end-user Baseline Interface meet the System Requirements and the Specifications.

At the end of System Integration Test, Contractor shall prepare Deliverable 5.1.2 – System Integration Test Results, summarizing the activities, types of tests, and test results. Deliverable 5.1.2 – System Integration Test Results shall include all technical materials, documentation and DMS generated output as required by County. Contractor

shall present to County evidence that all Subtask 5.1 – Conduct System Integration Test related requirements have been met. Contractor shall prepare supporting documentation, conduct a review at a meeting with County and provide any appropriate demonstration(s) of DMS capabilities, including County participation in or observation of tests.

Contractor shall correct all Deficiencies prior to the start of Subtask 5.2 – Conduct User Acceptance Test, provided that County's Project Director has approved Deliverable 5.1.2 – System Integration Test Results.

DELIVERABLE 5.1.1 – SYSTEM INTEGRATION TEST PLAN

Contractor shall provide a Test Plan for System Integration Test, which shall include:

a. Test approach, identifying the progression of the System Integration Test;
b. Scheduling and resources;
c. Tools, environments and controls to be used during the System Integration Test;
d. Entrance and exit criteria for System Integration Test;
e. Metrics to be used to evaluate System Integration Test results;
f. Name, description, objectives, intended audience and references of each specific test, including automated regression test;
g. Traceability of System Integration Test procedures to requirement(s) being tested;
h. Assumptions, issues and constraints; and
i. Instructions for conducting System Integration Test, including:
    i. How to set up the test preconditions (e.g., configure/initialize the test environment),
    ii. How to perform the test steps,
    iii. How to determine and document the actual test post-conditions,
    iv. How to compare the actual and expected results from the test, and
    v. How to report the results of the associated test.

DELIVERABLE 5.1.2 – SYSTEM INTEGRATION TEST RESULTS

Contractor shall provide the System Integration Test Results summary report, which summarizes all activities, types of tests and results of the System Integration Test to allow County to assess the System Integration Test outcome, as further specified in and in accordance with Subtask 5.1 – Conduct System Integration Test.

This report shall include without limitation:

a. Summary of all tests conducted during System Integration Test;
b. Summary of results;
c. Summary of each Deficiency identified by Contractor or County, its corrective action status, date of completion of each correction and date of County's Project Director's approval of each correction; and
d. Justification for moving to the UAT.

County's Project Director's approval of this Deliverable 5.1.2 – System Integration Test Results is required prior to Contractor proceeding to Subtask 5.2 – Conduct User Acceptance Test.

SUBTASK 5.2 – CONDUCT USER ACCEPTANCE TEST

Contractor and County shall perform the System testing specified in the PWP as a User Acceptance Test and contained in this Subtask 5.2 – Conduct User Acceptance Test, including testing of System validation functionality. County's approval shall be required before a UAT is deemed complete.

County, with assistance from Contractor, will perform the UAT to verify that each System Component functions according to the System Requirements and the Specifications.

Upon completion of the UAT, County shall report any identified Deficiencies to Contractor. Contractor shall correct any Deficiencies revealed during the UAT and install corrections into the System. County shall verify that the corrected System functionality performs in accordance with the System Requirements and the Specifications. The UAT shall end when all Deficiencies have been resolved, and County has documented successful completion of the UAT.

The UAT shall include without limitation the following activities:

1. Development of limited System documentation/completeness;
2. Ensuring user interaction/comprehension level;
3. Ensuring that accurate data is being captured;
4. Ensuring that optimal solutions for fraud detection are developed; and
5. Ensuring that security plan is operational.

The UAT is a major Project milestone during which County, with the assistance of Contractor, comprehensively will test the DMS against the Specifications and the System Requirements to determine if the DMS is ready for System Implementation.

Contractor shall provide a recommended UAT Test Plan to include:

1. A description of proposed tests to be conducted during the UAT;
2. A description of tools, environments and controls to be used during the UAT;
3. A proposed test schedule;
4. A description of Contractor and County roles, responsibilities and resources needed to perform the UAT;
5. A proposed training plan and schedule for the UAT team;
6. A process for UAT problem reporting, tracking and resolution process;
7. A proposed approach for the correction of any Deficiencies identified by Contractor or County during the UAT; and
8. Execution of the Business Continuity and Back-Up Server Plan.

Contractor shall provide the above to County under Deliverable 5.2.1 – User Acceptance Test Plan.

Contractor shall provide tools, environment and controls to be used during the UAT. Contractor shall assist County in developing the UAT Test Plan to be prepared by County.

During the UAT, Contractor shall provide support to County, including configuration of the Test Environment, training on testing tools or processes for County UAT team, management of test results and performance of any corrective actions in the case of identified Deficiencies by Contractor or County. Contractor shall be responsible for installing any special software and/or making any other needed changes to ensure the DMS is ready for the UAT. Contractor shall provide any necessary tools to simulate DMS performance under operational conditions. County will record all UAT results, and Contractor shall prepare the reports that include a record of all successes, failures, and corrective actions taken by Contractor.

Contractor shall provide Deliverable 5.2.2 – User Acceptance Test Status Reports, which summarizes all aspects of the UAT performed during that week, including any Deficiencies identified by Contractor or County, those corrected and still outstanding. Reports shall be due every Tuesday for the entire period of the UAT. Contractor shall document the review and acceptance of test materials, activities and results at weekly meetings with County.

County will notify Contractor of any Deficiencies identified by County during the UAT. For each Deficiency identified by Contractor or County, Contractor shall provide a corrective action plan, which shall include:

1. Description of each Deficiency and its root cause;
2. Business processes, DMS functions and/or Interfaces impacted;
3. Description of all potential risks to the DMS, including System Implementation and mitigation strategy for the DMS;
4. Corrective action plan, test scenarios and implementation approach;
5. Schedule for completion of each corrective action and resources required or assigned;
6. Status of each corrective action; and
7. Approval procedures that require County's Project Director's approval of each correction.

Contractor shall schedule and participate in a meeting with County to review the results of the UAT and determine whether Contractor has met all County requirements for DMS design and development, including the System Requirements and the Specifications. UAT shall include execution of the Business Continuity and Back-Up Server Plan.

Contractor shall provide Deliverable 5.2.3 – User Acceptance Test Certification to County certifying that all known Deficiencies identified by Contractor or County have been corrected by Contractor, and that all corrections have been approved by County's Project Director. County's Project Director's approval of Deliverable 5.2.3 – User Acceptance Test Certification will indicate the completion of Subtask 5.2 – Conduct User Acceptance Test.

DELIVERABLE 5.2.1 – USER ACCEPTANCE TEST PLAN

Contractor shall provide a recommended UAT Test Plan in accordance with Subtask 5.2 – Conduct User Acceptance Test, which shall include:

a. Description of proposed tests to be conducted during the UAT;

b. Tools, environments and controls to be used during the UAT;
c. Proposed test schedule;
d. Contractor roles, responsibilities and resources in performing the UAT;
e. Training plan and schedule for the UAT team;
f. Deficiency reporting, tracking and correction process; and
g. Approach to correcting Deficiencies identified during the UAT.

DELIVERABLE 5.2.2 – USER ACCEPTANCE TEST STATUS REPORTS

Contractor shall provide User Acceptance Test weekly Status Reports throughout the UAT period in accordance with Subtask 5.2 – Conduct User Acceptance Test. Each such Status Report shall include:

a. Summary of all tests conducted during the UAT;
b. Summary of test results;
c. Summary of each Deficiency identified by Contractor or County, including for each such Deficiency:
    i. Description of each Deficiency and its root cause,
    ii. Business processes, DMS functions and/or Interfaces impacted,
    iii. Description of all potential risks to the DMS or System Implementation and mitigation strategy for the DMS,
    iv. Corrective action plan, test scenarios and implementation approach,
    v. Schedule for completion of each corrective action and resources required/assigned,
    vi. Status of each corrective action,
    vii. Date of completion of each correction, and
    viii. Date of County's Project Director's approval of each correction; and
d. Documentation of the review of the previous week's report with County, including agenda, attendees, action items and supporting documentation.

DELIVERABLE 5.2.3 – USER ACCEPTANCE TEST CERTIFICATION

Contractor shall provide in accordance with Subtask 5.2 – Conduct User Acceptance Test a User Acceptance Test Certification of successful completion to County within ten (10) days after successful completion of the UAT, certifying that (i) all requirements traceability to all tests and test results have been verified, (ii) all Deficiencies identified by Contractor or County have been corrected by Contractor (iii) all corrections have been approved by County's Project Director, (iv) test results of the Business Continuity and Back-Up Server Plan, and (v) all other UAT–related activities have been completed.

Contractor shall also summarize all actions taken during UAT to correct each Deficiency identified by Contractor or County. The summary shall include for each Deficiency:

a. Description of each Deficiency and its root cause;
b. Business processes, DMS functions and/or Interfaces impacted;
c. Description of all potential risks to the DMS, System Implementation, and mitigation strategy for the DMS;
d. Corrective action plan, test scenarios and implementation approach;
e. Schedule for completion of each corrective action and resources required/assigned;
f. Status of each corrective action;

g. Date of completion of each correction; and
h. Date of County's Project Director's approval of each correction.

County Project Director's approval of this Deliverable 5.2.3 – User Acceptance Test Certification shall indicate the completion of Subtask 5.2 – Conduct User Acceptance Test.

TASK 6 – FINAL ACCEPTANCE

SUBTASK 6.1 – TRANSITION TO PRODUCTION ENVIRONMENT

Following the completion of the UAT and County's approval that the System meets the System Requirements and the Specifications, Contractor shall transition the System to the Production Environment by performing any tasks under Task 3 – System Setup, Task 4 – Implement System Software and Task 5 – System Testing, as applicable, in the Production Environment.

DELIVERABLE 6.1 – SYSTEM PRODUCTION USE

The System shall achieve Go-Live and be ready for Production Use when Contractor provides to County, and County approves, documented results certifying that the System was successfully transition to the Production Environment pursuant to Subtask 6.1 – Transition to Production Environment.

SUBTASK 6.2 – CONDUCT PERFORMANCE VERIFICATION

Following successful transitioning of the System to the Production Environment, County will monitor for Deficiencies and Contractor shall maintain the System in Production Use for a minimum of ninety (90) days. Upon occurrence of a Deficiency, Contractor shall correct such Deficiencies by re-performance pursuant to, and subject to the provisions of the body of the Agreement. The System shall achieve Final Acceptance if and when all Deficiencies identified during the ninety (90) day period have been corrected, even if the last correction occurs after such ninety (90) day period.

Commencing with Final Acceptance and continuing through the Warranty Period, any problems encountered by County in the use of the System shall be subject to the applicable System Maintenance terms under the Agreement.

DELIVERABLE 6.2.1 – PERFORMANCE VERIFICATION REPORT

Contractor shall provide to County the Performance Verification report, including supporting Documentation that the DMS complies with the System Requirements and the Specifications, including all System Performance Requirements, under full production load. Contractor shall conduct a review of Deliverable 6.2.1 – Performance Verification Report with County at a meeting scheduled by County and provide any County-requested demonstrations of the DMS including:

a. Summary of activities, results and outcomes;
b. Summary of each Deficiency identified by Contractor or County. The summary shall include for each Deficiency:
    i. Description of each Deficiency and its root cause,

ii. Business processes, DMS functions and/or Interfaces impacted,
iii. Description of all potential risks to the DMS and mitigation strategy for the DMS,
iv. Corrective action plan, test scenarios and implementation approach,
v. Schedule for completion of each corrective action and resources required or assigned,
vi. Status of each corrective action,
vii. Date of completion of each correction, and
viii. Date of County's Project Director's approval of each correction;

c. Summary of lessons learned; and
d. Recommendations for any improvements to the DMS.

DELIVERABLE 6.2.2 – FINAL ACCEPTANCE

The System shall achieve Final Acceptance and shall be ready for Production Use by County in the Production Environment upon County's acceptance that all Deficiencies discovered during the ninety (90) day period have been corrected, even if such correction occurred beyond ninety (90) day period. Contractor shall provide the Certification of Performance Verification and Final Acceptance, certifying that the DMS complies with the System Requirements and the Specifications and documenting the review with County under Deliverable 6.2.1 – Performance Verification Report, including agenda, attendees, action items, and supporting documentation.

TASK 7 – TRAINING

SUBTASK 7.1 – PROVIDE TRAINING

Contractor shall prepare and implement a comprehensive System Training program, including any necessary training materials. The training program shall include training courses addressing project team training, end-user training and train-the-trainers for County's project team, end-users and trainers.

As part of System Training, Contractor shall provide the designated County groups with extensive working knowledge of the System Software capabilities, as well as training in the administration of the System Software. Training materials will only be provided to those County personnel attending the Training sessions.

County staff shall be responsible for system administration and on-going training to support the System. At the end of training, County's technical staff shall be able to do the following:

1. Understand the System and services methodology;
2. Configure the System;
3. Operate the System;
4. Manage the metadata environment;
5. Develop and run data quality solutions – profiling / transforming / matching / standardizing / un-duplicating / geocoding data sources;
6. Perform data integration tasks — ETL;

7. Run and evaluate Predictive Data Mining Models;
8. Run and evaluate service network analysis;
9. Manage data mining models;
10. Create and modify reports;
11. Modify end-user and other Baseline Interfaces; and
12. Administer the System, including setting up user security access profiles.

DELIVERABLE 7.1 – TRAINED COUNTY STAFF

For the purpose of conducting System Training, Contractor shall develop a detailed plan for training of County staff on the use of the System. Contractor shall deliver training classes and training materials consistent with the classes described in County-approved plan and certify in writing that all System Training as described in Subtask 7.1 – Provide Training has been successfully completed.

TASK 8 – SYSTEM DOCUMENTATION

SUBTASK 8.1 – PROVIDE SYSTEM DOCUMENTATION

Contractor shall prepare and provide County with System and user reference Documentation for the fraud solution platform and solutions utilizing the data mining procedures provided by Contractor under this Agreement. This Documentation shall provide County staff with a comprehensive reference source of System functionality, fraud solution components and all System Maintenance activities listed in Task 9 – System Maintenance.

DELIVERABLE 8.1 – SYSTEM DOCUMENTATION

Contractor shall provide County with Knowledge Transfer Documentation in accordance with Subtask 8.1 – Provide System Documentation. Contractor shall deliver this Documentation in an electronic format as required by County.

TASK 9 – SYSTEM MAINTENANCE

SUBTASK 9.1 – PROVIDE SYSTEM MAINTENANCE PLAN

Contractor shall work in conjunction with County staff to develop a plan for System Maintenance, including Maintenance Services and Support Services (in this Exhibit A "System Maintenance Plan"), covering ongoing operations, maintenance, support and administration of the System in accordance with Exhibit D (System Maintenance) to the Agreement. The System Maintenance Plan shall address, at a minimum, the following:

1. Backup - The analytic data and metadata environments should be backed up according to the post-deployment plan document;
2. Monitoring the fraud prevention platform environment; including job schedules, growth, back-up, restore, and user registration and utilization; acting as appropriate to maintain a stable, functioning environment for the fraud solution platform;
3. Measuring, managing and improving data quality;

4. Maintaining the analytic data tables;
5. Managing Predictive Model effectiveness by monitoring and assessing the performance of developed models in order to make adjustments continuously in response to changing behavior of parties committing fraud, or as a result of the availability of new information;
6. Providing a Back-Up Server Plan, Business Continuity Plan and a back-up site at a mutually agreed upon location that is in a different location than the deployed fraud platform pursuant to the Business Continuity and Back-Up Server provisions of Exhibit D (System Maintenance);
7. Providing Change Management Plan;
8. Providing Performance Management Plan; and
9. Providing Project reporting plan, including schedule and structure of monthly status meetings and reports.

DELIVERABLE 9.1 – SYSTEM MAINTENANCE PLAN

Contractor shall prepare and provide a System Maintenance plan that will address the specific Maintenance Services and Support Services requirements of the DMS in accordance with and relating to all items listed in Subtask 9.1 – Provide System Maintenance Plan, including but not limited to monitoring, maintaining and managing and backing-up the fraud platform environment.

SUBTASK 9.2 – PROVIDE SYSTEM MAINTENANCE

Contractor shall provide System Maintenance, which shall include all goods and services necessary to manage, operate and support the DMS to comply with the System Requirements and Specifications and shall be provided during Support Hours for the term of the Agreement, as further specified in Exhibit D (System Maintenance). System Maintenance shall include Maintenance Services, consisting of Updates, as well as Support Services, which include, but are not limited to, help-desk support during Support Hours ("Help Desk"), as requested or required by County.

The System Maintenance services shall include, without limitation:

1. Support for all System Hardware necessary for the DMS;
2. Support of security and network activity and maintenance of Web Services;
3. Support for all System Software issues/problems;
4. Support for all System Software upgrades, updates, new releases, etc;
5. Support for all System Software fixes, patches, etc.; and
6. Access to knowledgeable Contractor personnel (i.e., Help Desk) who can answer questions on the use of the System or provide analysis on solutions to operational problems, which County may encounter during Support Hours.

DELIVERABLE 9.2 – SYSTEM MAINTENANCE

Contractor shall provide System Maintenance in accordance with the terms of Subtask 9.2 – Provide System Maintenance, Exhibit D (System Maintenance) and the Base Agreement, which shall include, but not be limited to:

1. Providing and maintaining System Hardware, as appropriate;
2. Monitoring of security and network activity, and maintenance of Web Services;
3. Providing and maintaining System Software, as appropriate;
4. Providing Updates to System Software, as appropriate; and
5. Responding to Support Services requests made by County.

SUBTASK 9.3 – PROVIDE DMS TRANSITION

SUBTASK 9.3.1 – PROVIDE DMS TRANSITION PLAN

Contractor shall provide to County a plan for a smooth transition or transfer of the DMS, System Data and the DMS repository from Contractor's environment to the new environment of County or County-selected vendor ("Transition Plan") within thirty (30) days of completing Deliverable 6.2.2 – Final Acceptance. Contractor shall maintain and update the Transition Plan annually for County's Project Director's approval and be able to provide an updated copy within thirty (30) days of County's request. Contractor shall keep the most current version of the Transition Plan in the DMS repository throughout the term of the Agreement. All work for the DMS transition shall be provided by Contractor in accordance with Exhibit B (Schedule of Payments). The Transition Plan shall, at a minimum, include:

1. Identification of resource requirements needed to transition, host and operate the DMS at County or County-selected vendor data center(s);
2. Identification of transition team roles and responsibilities;
3. Proposed timeline for completion of transition activities;
4. Training plan and training of County-specified persons for the transition of the DMS and System Data; and
5. Information and supporting documentation, as required by County, related to volumes, file sizes and growth trends.

DELIVERABLE 9.3.1 – DMS TRANSITION PLAN

Contractor shall provide to County and update the DMS Transition Plan in accordance with Subtask 9.3 – Provide DMS Transition.

SUBTASK 9.3.2 – PROVIDE DMS TRANSITION SUPPORT

Upon County's election to transition or transfer the DMS from Contractor's environment to the new environment of County or County-selected vendor, Contractor shall provide to County support to ensure success of such transition or transfer (hereinafter "Transition Support" or "DMS Transition Support") in accordance with the Transition Plan, as it may need to be updated. The DMS Transition Support shall be provided to County as Optional Work in the form of Professional Services (as described in Task 10 – Optional Work) in accordance with a mutually agreed upon Change Order and shall not exceed the Maximum Fixed Price allocated for the DMS Transition Support in Schedule B.1 (Optional Work).

As part of the DMS Transition Support, Contractor shall:

1. Update the DMS Transition Plan in accordance with the latest System Environment and the agreed upon Change Order;
2. Training County-specified personnel as specified in the Transition Plan;
3. Provide to County information and supporting documentation, as required by County, related to volumes, file sizes and growth trends;
4. Assist County the period of the DMS transition; and
5. Provide such other services as are necessary for the successful transition or transfer of the DMS from Contractor's environment to the new environment of County or County-selected vendor.

Contractor shall commence Transition Support at least ninety (90) days prior to expiration or termination of the Agreement or as otherwise specified in the applicable Change Order.

DELIVERABLE 9.3.2 – DMS TRANSITION SUPPORT

Upon County's election and mutual agreement to a Change Order, Contractor shall provide Transition Support in accordance with Subtask 9.3.2 – Provide DMS Transition Support.

TASK 10 – OPTIONAL WORK

SUBTASK 10.1 – PROVIDE SOFTWARE ENHANCEMENTS

Following Performance Verification and Final Acceptance, County may from time to time, during the term of this Agreement, submit to Contractor for Contractor's review written requests for Software Enhancements using Pool Dollars, including Customizations and/or Additional Software, for System enhancements not reflected in the System Requirements, including, but not limited to, addition, deletion or modification of the Application Software functions, Customizations, changes to current System outputs, new and modified reports, new screens and Additional Interfaces. In response to County's request, Contractor shall submit to County for approval a System Design Report (in this Exhibit A "SDR") describing the particular Software Enhancements and a not-to-exceed Maximum Fixed Price to provide such Software Enhancements, calculated based on the Fixed Hourly Rate and other pricing terms set forth in the Schedule of Payments and elsewhere in the Agreement. County and Contractor shall agree on the Change Order developed using the SDR, which shall at a minimum include the tasks and deliverables to be performed, System Tests and warranty provisions, as applicable, and the Maximum Fixed Price for such Software Enhancements.

Any enhancements and/or modifications to System Requirements resulting from Software Enhancements shall be incorporated into, and become part of, the System Requirements. All Software Enhancements, once completed, shall become part of the System and shall not increase the Maintenance Fees allocated for the term of the Agreement.

DELIVERABLE 10.1 – SOFTWARE ENHANCEMENTS

Upon County's request for, and Contractor's agreement to provide, Software Enhancements, Contractor shall complete, test and install all Software Enhancements in accordance with Subtask 10.1 – Provide Software Enhancements and certify in writing that Software Enhancements meet the requirements of the applicable Change Order, including any required System Tests and System Requirements.

SUBTASK 10.2 – PROVIDE PROFESSIONAL SERVICES

County may from time to time, during the term of this Agreement, submit to Contractor for Contractor's review written requests for Professional Services using Pool Dollars, including Consulting Services and/or Additional Training, for services not included in System Implementation. In response to County's request, Contractor shall submit to County for approval a System Design Report (SDR) describing the particular Professional Services and a not-to-exceed Maximum Fixed Price to provide such Professional Services, calculated based on the Fixed Hourly Rate and other pricing terms set forth in the Schedule of Payments and elsewhere in the Agreement. County and Contractor shall agree on the Change Order developed using the SDR, which shall at a minimum include the tasks and deliverables to be performed, System Tests, standard of services and warranty provisions, as applicable, and the Maximum Fixed Price for such Professional Services.

Any enhancements and/or modifications to System Requirements resulting from Professional Services shall be incorporated into, and become part of, the System Requirements. Any products of Professional Services, once completed, shall become part of the System and shall not increase the Maintenance Fees allocated for the term of the Agreement.

DELIVERABLE 10.2 – PROFESSIONAL SERVICES

Upon County's request for, and Contractor's agreement to provide, Professional Services, Contractor shall complete provide Professional Services in accordance with Subtask 10.2 – Provide Professional Services and certify in writing that the Professional Services meet the requirements of the applicable Change Order.

TASK 11 – IHSS PILOT

Upon County's notice to proceed, Contractor shall develop and implement the IHSS Pilot at no cost to County as provided in this TASK 11 – IHSS Pilot below. The purpose of the IHSS Pilot is to demonstrate the feasibility and benefits of using data mining technology for screening potential fraud. Working with the data sets prepared by County staff, Contractor shall apply advanced analytical models to assess the degree to which statistical analysis can reliably identify the characteristics of fraud. Target measures will include current indicators of potential fraud such as a fraud referral, current rule-based algorithms, and actual criminal charges and convictions. The outcome of the IHSS Pilot will be a set of preliminary predictive models that can be used by County to detect potential fraud, as well as measures of the associated cost avoidance resulting from use of those models.

The start and end dates pertaining to the IHSS Pilot shall be mutually agreed upon by the parties following execution of Amendment Number One to the Agreement. Contractor shall, to the extent possible, utilize the existing DMS Project resources for the IHSS Pilot. For purposes of clarity, the sole deliverable for the IHSS Pilot shall be this TASK 11 – IHSS Pilot, including Deliverable 11.1 – IHSS Pilot.

SUBTASK 11.1 – IMPLEMENT IHSS PILOT

Contractor's data mining Fraud Framework consists of software that is specifically designed to detect collusive patterns in entitlement programs, including the following:

- Ability to integrate data that requires highly-specific, cell-level validation
- Statistical models for assessing relative risk
- Reporting structures
- Configurable interface

Contractor shall use its Fraud Framework using the available data to assist County by doing the following:

- Scoring provider / consumer relationships for risk, based on irregularities
- Developing a more timely reporting system that draws investigators' attention to the most relevant risk factors for a particular case
- Integrating county and state data to provide a richer, clearer picture of a particular consumer / provider relationship
- Providing a framework that allows investigators to act on professional expertise, hunches, and other relevant leads in investigating provider / consumer relationships

Contractor shall implement the IHSS Pilot for County's Anti-Fraud Plan that will be configured to meet the needs of the social workers and investigators using the solution. The IHSS Pilot will include color-coded indicators of risk, pull-down menus for filtering data and search boxes for finding specific cases or groups of cases that match a particular pattern.

The IHSS Pilot reporting system will provide drillable access from many different vantage points:

- Working upward from individual cases or downward from case managers
- Working sideways through the data by provider or consumer
- Working across time, looking at any historical time period and into the future, based on predictive models of the future of provider / consumer relationships

The reporting tools also support point-and-click report generation for permanent documentation (in PDF format), as well as e-mail notification to investigators or case managers of sudden changes in risk status for a provider / consumer relationship.

Contractor's Fraud Framework analytical models will includes measures of the "red flags" called for in the Plan, identification of "Error Prone Profiles (EPP)", and data mining models for "evidence or characteristics of potential program violation". Contractor shall measure such risks based on the following:

- Provider level
- Provider / consumer relationship type
- Location of care and characteristics of the home (e.g., number in the household, residence type, living arrangement, or rooms)
- Disability category of the consumer (using functional index, SSI eligibility and other data)

As part of the collaborative effort in the IHSS Pilot, County staff will gather and prepare the necessary data as requested by Contractor. Such data will be provided to Contractor using a secure process that is consistent with other fraud projects currently underway with County. For the IHSS Pilot, County staff will provide such data in the data set format requested by Contractor, with appropriate key or ID match fields available to match the data sets for analytical purposes. To integrate these data, County will apply similar identity resolution processes and procedures that have proved effective with DMS Project for the CalWORKs program.

TABLE 1: Data for the Pilot

DATA SOURCE	INFORMATION	QUANTITY	AVAILABILITY
CMIPS	Consumer and provider information and identifiers, including functional scores for consumers and characteristics of the home (e.g., household composition, residence type, living arrangement, or rooms)	All data back to 2002, including current data collected after the rules changed in 2009	Currently available
LEADER Fraud Cluster Data	All fraud activities in public assistance programs	More than 1M records going back to 1998	Currently available
IHSS Fraud Log	Case names, dates, investigation results, and amounts lost for 1,300 cases and, since August 2009, the reason for the referral	Data back to 2005	Currently available
State ITS file	Additional fraud case data with details on investigations	Equals number of cases prosecuted	State request submitted
Death Files	Identification of deceased individuals	Equals number of individuals diseased	Available October 2010
LEADER tables	Aid eligibility, income and personal identifiers, addresses, and relationships	Past three years	Currently available
MEDS	The MEDS data is the daily and quarterly interface between LEADER and MEDS. LEADER sends a file with all records to MEDS. MEDS matches the records and sends back a file to LEADER.		Currently in LEADER

DELIVERABLE 11.1 – IHSS PILOT

Using the data provided by County staff, Contractor shall apply advanced analytical and data mining techniques to develop models that can assess potential fraud risk as provided in Subtask 11.1 – Implement IHSS Pilot. The deliverable for the IHSS Pilot will consist of a mid-term presentation on the progress attained on the IHSS Pilot, as agreed to by the parties, and a final report documenting the potential applicability of one (1) or more of models described below in support of the three (3) success criteria listed below. Following delivery of the final report, Contractor shall conduct an oral presentation to County on the findings of the final report.

TABLE 2: Analyses for the Pilot

MODEL	DESCRIPTION
Rule-based Models	The state currently has business rules used for the six major reports. Contractor shall replicate those, and any other current rules, and add additional data to those rules to determine the degree to which data mining can provide a clearer view of risk.
Outlier Models	Contractor shall model expected distributions of key metrics for consumer / provider pairs and assist in determining appropriate cut scores or levels for measuring unusual patterns.
Referral Prediction Model(s)	Contractor shall use available data and the referral target history to build statistical models to predict referrals.

Other analyses may also be conducted to evaluate the effectiveness of the current Death Match reporting system, using historical information to determine the amount of money that could have been saved had a more timely reporting system been in place.

There are two primary success criteria for this IHSS Pilot. First, Contractor shall work with County to identify the potential cost savings that would result from applying the three kinds of statistical models outlined in Table 2. Second, in support of the first goal, Contractor shall demonstrate how data mining methods can provide better models of fraud. Contractor shall demonstrate the benefits of using more precise statistical models of fraud risk by showing how improvements to current rule-based algorithms, outlier models, and referral prediction models can allow County to focus investigatory resources, reducing false positives and drawing more attention to cases more likely to involve fraud.

To quantify the success of the IHSS Pilot in terms of total annual gross cost avoidance, Contractor and County personnel will work together in order to determine the following:

1. The value of new, previously undetected fraud referrals.
2. The value of detecting currently known fraud referrals earlier (that is, prior to the date of referral to County).
3. The value of any efficiency gains from using the solution.

The goal of this IHSS Pilot is to provide County with some meaningful information and proof of the value that County will recognize if County elects to deploy the IHSS Solution more fully and across a wider set of data assets.

Data Mining Solution (DMS)
For
Child Care Fraud Detection

Exhibit B - Schedule of Payments

Data Mining Solution (DMS)
Contractor's Name: SAS Institute Inc.

	Table of Contents	Page Number(s)
1	Total Pricing Summary	3
2	Pricing Years 1-2 and Optional Years 3 - 4	4
3	System Implementation - Firm Fixed Price	5
4	System Maintenance - Firm Fixed Price	6
5	Optional Work - Fixed Hourly Rate	7
6	Labor Resources	8

Data Mining Solution (DMS)
Contractor's Name: SAS Institute Inc.

Work Description	Total Firm Fixed Price
System Implementation	$2,510,955
System Maintenance	$1,626,282
Optional Work (Pool Dollars)	$93,700
Total Price	**$4,230,937**

Data Mining Solution (DMS)
Contractor's Name: SAS Institute Inc.

Work Description	Year 1	Year 2	Optional Year 3	Optional Year 4	Total Firm Fixed Price
System Implementation	$2,510,955				$2,510,955
System Maintenance		$673,882	$499,518	$452,882	$1,626,282
Optional Work (Pool Dollars)					$93,700
Total	**$2,510,955**	**$673,882**	**$499,518**	**$452,882**	**$4,230,937**

Data Mining Solution (DMS)
Contractor's Name: SAS Institute Inc.

	System Implementation	
	Deliverables	**Firm Fixed Price**
	1.1 - Project Control Document	$8,500
	1.2 - Status Reports and Conferences	$8,500
	1.3 - Project Office Certification	$2,100
	1.4 - Web-Server Hosting Certification	$2,100
	2 - Assessment and Requirements Document	$61,500
	3.1 - Design Specification Document	$23,300
	3.2 - System Configuration Plan and Certification	$87,350
	3.3 - System Hardware Certification	$87,900
	4.1 - System Software Certification	$117,100
	4.2 - Data Quality and Integration Solution	$89,100
	4.3 - Predictive Data Mining Models	$137,900
	4.4 - Baseline Interfaces	$36,100
*	4.5 - Deployed Fraud Solution Platform	$1,552,705
	5.1.1 - System Integration Test Plan	$31,800
	5.1.2 - System Integration Test Results	$21,200
	5.2.1 - User Acceptance Test Plan	$12,700
	5.2.2 - User Acceptance Test Status Reports	$6,400
	5.2.3 - User Acceptance Test Certification	$6,400
	6.1 - System Production Use	$10,600
	6.2.1 - Performance Verification Report	$10,600
	6.2.2 - Final Acceptance	$12,700
	7.1 - Trained County Staff	$53,000
	8.1 - System Documentation	$42,400
	9.1 - System Maintenance Plan	$12,700
	9.2 - System Maintenance	$63,600
	9.3.1 - DMS Transition Plan	$12,700
	11.1 - IHSS Pilot	$0
	Total	**$2,510,955**

* **Will be paid in four (4) quarterly installments in arrears, with first due three (3) months after the Effective Date and every three (3) months thereafter. For example, with Effective Date of December 31, 2009, payments will be due on March 2010, June 2010, September 2010, December 31, 2010**

Data Mining Solution (DMS)
Contractor's Name: SAS Institute Inc.

	System Maintenance	Firm Fixed Price				
	Description of System Maintenance	Year 1	Year 2	Optional Year 3	Optional Year 4	Firm Fixed Price Years 2-4
	9.2 - System Maintenance					
	System Hardware					
*	Production Server/Back-up Server		$111,906	$67,461	$18,600	
	Infrastructure Hosting		$37,492	$27,453	$18,922	
	Infrastructure Network					
	Infrastructure Back-up Hosting					
	Infrastructure/DR/Network/Storage					
	System Software					
*	Third Party Software		$81,522	$24,910	$24,910	
*	Application Software		$219,392	$217,909	$228,665	
	Application Modifications		$100,000	$100,000	$100,000	
	Replacement Products					
	Updates					
	Help Desk Support (Technical and User Support)		$123,570	$61,785	$61,785	
	Total of System Maintenance		**$673,882**	**$499,518**	**$452,882**	**$1,626,282**

* **Software Support Fees - shall be paid to Contractor on annual basis in advance.**

Data Mining Solution (DMS)
Contractor's Name: SAS Institute Inc.

Optional Work*	Fixed Hourly Rate
All Other Labor Resources except those listed below	$175
Jr. ETL Analyst	$150
Documentation Specialist QA Analyst	$125

Fixed Hourly Rate shall be used to calculate Maximum Fixed Price for Optional Work, which may be provided by Contractor during the term of the Agreement. Fixed Hourly Rate shall not increase during the term of the Agreement.

* Optional Work will be determined solely by County. Contractor is not required to enter any pricing other than the Fixed Hourly Rate.

Data Mining Solution (DMS)
Contractor's Name: SAS Institute Inc.

	Year 1			Year 2			Optional Year 3			Optional Year 4		
Staffing	# of Persons	Hourly Rate	Annual Price	# of Persons	Hourly Rate	Annual Price	# of Persons	Hourly Rate	Annual Price	# of Persons	Hourly Rate	Annual Price
Project Director - John Brocklebank	1	$225	$45,000	1	$0	$5,000	1	$0	$5,000	1	$0	$5,000
Project Manager - Jim Georges	1	$190	$114,000	1	$0	$30,000	1	$0	$30,000	1	$0	$30,000
Project Manager - Stu Bradley	1	$150	$45,000	1	$0	$17,500	1	$0	$17,500	1	$0	$17,500
Key Personnel		$0	$0		$0	$0		$0	$0		$0	$0
Analytics Manager - Jin-Whan Jung	1	$200	$40,000	1	$200	$5,000	1	$200	$5,000	1	$200	$5,000
Analytics Consultant - Jay King	1	$175	$96,250	1	$175	$15,000	1	$175	$15,000	1	$175	$15,000
Analytics Consultant - Sanjay Arangala	1	$175	$70,000	1	$175	$12,000	1	$175	$12,000	1	$175	$12,000
Analytics Consultant - TBD	1	$175	$70,000									
IT Manager	1		$0									
SSO IT Consultant	1		$0									
ISD IT Consultant	1		$0									
SAS Administrator - Don Koch	1	$150	$97,500	1	$150	$3,500	1	$150	$3,500	1	$150	$3,500
ETL Consultant - Bryan Mohorn	1	$150	$51,000	1	$150	$5,000	1	$150	$5,000	1	$150	$5,000
Documentation Specialist	1	$125	$50,000	1	$125	$2,000	1	$125	$2,000	1	$125	$2,000
Quality Assurance Manager	1	$125	$43,750	1	$125	$1,500	1	$125	$1,500	1	$125	$1,500
Quality Assurance Consultant	1	$125	$50,000	1	$125	$3,500	1	$125	$3,500	1	$125	$3,500
Total			**$772,500**			**$100,000**			**$100,000**			**$100,000**