This document is made available electronically by the Minnesota Legislative Reference Library as part of an ongoing digital archiving project. http://www.leg.state.mn.us/lrl/lrl.asp

# **Redesigning Service Delivery**

# **Planning for an Integrated Service Delivery System**

### MN.IT Services at DHS May 2013









Minnesota Department of **Human Services** 

Redesigning Service Delivery-Planning for an Integrated Service Delivery System

#### For more information contact:

Minnesota Department of Human Services MN.IT Services at DHS P.O. Box 64968 St. Paul, MN 55164-0968 (651) 431-2110 This information is available in accessible formats to individuals with disabilities by calling (651) 431-2110,

Or by using your preferred relay service.

For other information on disability rights and protections, contact the agency's ADA coordinator.

Minnesota Statutes, Chapter 3.197, requires the disclosure of the cost to prepare this report. The estimated cost of preparing this report is \$3,000.

Printed with a minimum of 10 percent post-consumer material. Please recycle.





Minnesota Department of Human Services

#### **Table of Contents**

I.	Executive summary
II.	Legislation
III.	Introduction
IV.	The Framework9
V.	Planning10
VI.	Health Insurance Exchange11
VII.	Communication and Governance
VIII.	Roadmap to Implementation
IX.	Legislative Appropriation
X.	Conclusion15
XI.	Appendix: Enterprise Systems Modernization Roadmap Report

Redesigning Service Delivery-Planning for an Integrated Service Delivery System

#### I. Executive summary

Laws of Minnesota 2011, First Special Session, Chapter 9, Article 9, Section 17, requires the Department of Human Services (DHS) to report progress on the implementation of simplification of the eligibility and enrollment process, including an integrated service delivery system for health care programs, food support, cash assistance, and child care, no later than May 15 annually. This is the 2013 report of DHS' progress.

DHS and county partners are engaged in developing the integrated service delivery framework as required by the legislation. The definition, scope, and goals of the framework have been agreed to and planning work to facilitate the completion of the framework is nearly complete.

The planning, which includes broad representation across DHS, Minnesota Information Technology Services (MN.IT Services), and counties is a prerequisite for federal funding and is aligned with federal architectures. The planning is also looking for opportunities to leverage enhanced federal funding, cost allocation waivers, and health insurance exchange (MNsure) investments.

Governance and communication within the modernization effort is designed to utilize the enterprise architecture governance structure in place at DHS and to include and inform key business partners. There is also special consideration given to coordinating with MNsure in order to deliver seamless eligibility and enrollment in health care programs.

DHS is currently seeking the legislative appropriation necessary to implement the first phases of the integrated service delivery system.

#### II. Legislation

This report is prepared for the Legislature pursuant to Laws of Minnesota 2011, First Special Session, Chapter 9, Article 9, Section 17:

Sec. 17. SIMPLIFICATION OF ELIGIBILITY AND ENROLLMENT PROCESS.

(a) The commissioner of human services shall issue a request for information for an integrated service delivery system for health care programs, food support, cash assistance, and child care. The commissioner shall determine, in consultation with partners in paragraph (c), if the products meet departments' and counties' functions. The request for information may incorporate a performance-based vendor financing option in which the vendor shares the risk of the project's success. The health care system must be developed in phases with the capacity to integrate food support, cash assistance, and child care programs as funds are available. The request for information must require that the system:

(1) streamline eligibility determinations and case processing to support statewide eligibility processing;

(2) enable interested persons to determine eligibility for each program, and to apply for programs online in a manner that the applicant will be asked only those questions relevant to the programs for which the person is applying;

(3) leverage technology that has been operational in other state environments with similar requirements; and

(4) include Web-based application, worker application processing support, and the opportunity for expansion.

(b) The commissioner shall issue a final report, including the implementation plan, to the chairs and ranking minority members of the legislative committees with jurisdiction over health and human services no later than January 31, 2012.

(c) The commissioner shall partner with counties, a service delivery authority established under Minnesota Statutes, chapter 402A, the Office of Enterprise Technology, other state agencies, and service partners to develop an integrated service delivery framework, which will simplify and streamline human services eligibility and enrollment processes. The primary objectives for the simplification effort include significantly improved eligibility processing productivity resulting in reduced time for eligibility determination and enrollment, increased customer service for applicants and recipients of services, increased program integrity, and greater administrative flexibility. (d) The commissioner, along with a county representative appointed by the Association of Minnesota Counties, shall report specific implementation progress to the legislature annually beginning May 15, 2012.

(e) The commissioner shall work with the Minnesota Association of County Social Service Administrators and the Office of Enterprise Technology to develop collaborative task forces, as necessary, to support implementation of the service delivery components under this paragraph. The commissioner must evaluate, develop, and include as part of the integrated eligibility and enrollment service delivery framework, the following minimum components:

(1) screening tools for applicants to determine potential eligibility as part of an online application process;

(2) the capacity to use databases to electronically verify application and renewal data as required by law;

(3) online accounts accessible by applicants and enrollees;

(4) an interactive voice response system, available statewide, that provides case information for applicants, enrollees, and authorized third parties;

(5) an electronic document management system that provides electronic transfer of all documents required for eligibility and enrollment processes; and

(6) a centralized customer contact center that applicants, enrollees, and authorized third parties can use statewide to receive program information, application assistance, and case information, report changes, make cost-sharing payments, and conduct other eligibility and enrollment transactions.

(f) Subject to a legislative appropriation, the commissioner of human services shall issue a request for proposal for the appropriate phase of an integrated service delivery system for health care programs, food support, cash assistance, and child care.

EFFECTIVE DATE. This section is effective the day following its signing.

#### III. Introduction

This report is prepared for the Legislature pursuant to Laws of Minnesota 2011, First Special Session, Chapter 9, Article 9, Section 17, which directed the Commissioner of the Department of Human Services (DHS), along with a county representative appointed by the Association of Minnesota Counties (AMC), to report specific implementation progress to the legislature annually beginning May 15, 2012. The commissioner is required to work with the Minnesota Association of County Social Service Administrators (MACSSA) and the Office of Enterprise Technology (now MN.IT Services) to develop collaborative task forces, as necessary, to support implementation of the service delivery components specified in the law. This report is jointly submitted by the Commissioner of DHS and the president of AMC, with review and input from the Enterprise Architecture Board (EAB) and MACSSA Policy Committee.

Redesigning Service Delivery-Planning for an Integrated Service Delivery System

#### IV. The Framework

DHS and its partners are directed to develop the integrated service delivery framework. As the cornerstones for this framework, they have agreed upon a definition, scope, and goals of an Integrated Human Service Delivery System for health care programs, food support, cash assistance, and child care.

The planning process will provide the roadmap for implementation. The roadmap includes plans to eventually extend the framework to incorporate additional programs that are important to an integrated delivery of human services, such as child support and social service programs.



#### V. Planning

As a prerequisite to receiving enhanced funding from the Centers for Medicare & Medicaid Services (CMS) for implementation activities related to systems modernization, DHS is required to complete a thorough planning process that includes a feasibility study, alternatives assessment, requirements analysis, and cost/benefit analysis. To accomplish this work objectively across all programs, DHS contracted with KPMG LLP on August 2, 2012 to perform planning services for DHS.

KPMG included DHS and MN.IT experts from the breadth of DHS program and system areas, as well as county and tribal input to ensure comprehensive representation in the planning process. KPMG also considered MNsure's investments and leverage opportunities to ensure maximum financial effectiveness and technological continuity.

Additionally, KPMG aligned their planning activities with federal approaches and architectures, like Medicaid Information Technology Architecture (MITA) and National Human Services Interoperability Architecture (NHSIA). By aligning with these architectures, DHS modernization planning is poised to realize benefits such as streamlined and standardized operational approaches and business work flows that will minimize customization demands on technology solutions and optimize business outcomes.

#### VI. Health Insurance Exchange

DHS continues to be fully engaged in working with the Departments of Commerce, Health, and Management and Budget, as well as MN.IT Services to implement the exchange, required by the Affordable Care Act (ACA). DHS requested and received approval for enhanced funding from CMS for planning and implementation activities related to systems modernization, including MNsure.

In August of 2011, DHS issued a request for information (RFI) for an integrated service delivery system, and later hosted demonstrations of selected vendor systems. The vendor product that received the most positive feedback during the RFI process was Cúram Software, as illustrated in Appendix C of the January 2012 legislative report. On July 14, 2012, MNsure secured Cúram software through a request for proposals (RFP).

The minimum components required by Article 9, Section 17 (e) are being implemented in MNsure as they are also required by the ACA. The synergies between MNsure functions, software selection, and funding make MNsure an ideal framework to leverage in planning DHS modernization.

In order to leverage The MNsure investment, care is being taken to ensure development of a scalable infrastructure that can support modernization of DHS systems. By using MNsure as the framework for further modernization, DHS will be able to offer a seamless experience for clients and families that are expected to pass between Exchange and DHS programs, as well as maximize the effectiveness of state spending.

#### VII. Communication and Governance

DHS' governing boards, the Enterprise Architecture Board (EAB), the Business Architecture Domain Team (BADT), the Financial Architecture Domain Team (FADT), the Data Architecture Domain Team (DADT), and the Technical Application and Architecture Domain Team (TAADT) allow DHS to bring together representation from counties, MN.IT Services, and disparate DHS program and system areas to focus on issues that have broad impacts, including the development and implementation of an integrated service delivery system.

The EAB has established the following strategic areas in which work efforts and projects are tracked:

- Policy/Processes Strategy: Program Simplification
- Service Delivery -Strategy: Service Delivery Reform
- Systems/Technology Support -Strategy: Systems Modernization

Regular modernization progress reports, presentations, and demonstrations are provided to the Domain Teams. As they and other collaborative workgroups focus on the interrelated efforts underway that impact and lead to systems modernization and simplification of eligibility and enrollment policy and procedures, the governing boards and strategic areas allow the oversight, coordination, and action needed to accomplish the objectives of Article 9, Section 17.

As agile supplements to the internal governance at DHS already described, a decision making team has been formed, engaged, and authorized to address exchange and modernization issues specifically. The team is comprised of three members, each representing key elements of the projects (policy, finance and technology). The function of this specialized team is to facilitate timely response to emerging issues and decision items in order to keep the projects on track.

A key mechanism of communication to interested parties beyond the governing boards is regular presentations at county leadership and tribal forums including MACSSA, Minnesota Association of Financial Assistance Supervisors (MAFAS), and Tribal Health Directors Meetings.

#### VIII. Roadmap to Implementation

As federal guidance and information regarding the exchange became available over the past year, DHS and MNsure agreed that proceeding to implement modernization of health care eligibility and enrollment using Cúram software was necessary to create the seamlessness envisioned under the ACA and Article 9, Section 17. A request for approval of the work plan and funding needed to accomplish this effort was sent to CMS and approval received on December 26, 2012. Modernized health care eligibility and enrollment, in coordination with MNsure, is targeted for early 2014.

To modernize the remaining DHS systems to meet the goals of simplification and streamlining of eligibility and enrollment processes in cooperation with MNsure, KPMG has delivered a Roadmap to Implementation. It is attached in its entirety as Appendix A. This deliverable allows DHS to complete the framework, identify the funding requirements, and proceed to implement technology to support the Integrated Service Delivery System.

Redesigning Service Delivery-Planning for an Integrated Service Delivery System

#### IX. Legislative Appropriation

Article 9, Section 17 (f) directs the commissioner to issue an RFP for the appropriate phases of modernization. DHS has included a funding request in the 2013 Governor's budget request to the legislature.

The request was based on the cost projections provided in deliverables of KPMG's planning work, and includes the first three of five phases of modernization. These three phases are important to leveraging MNsure's investment, the available enhanced federal funding, and the relaxed cost allocation opportunities currently but temporarily available for this work. The phases included in the budget request are also aligned with the requirements of Article 9, Sec 17 (e).

The cost of the implementation of modernized systems is subject to change. Refined requests in subsequent legislative sessions may be necessary due to changes to the modernization portion of this year's governor's budget request, further federal clarification of the ACA and Exchange guidance impacting modernization, as well as additional information gained as implementation proceeds.

#### X. Conclusion

DHS and county partners are engaged in implementing the integrated service delivery framework. The commitment to leveraging every opportunity and resource for this effort have allowed DHS to begin modernization of health care, while planning for the rest of systems modernization continues.

Even as DHS pursues this modernization, a legislative appropriation is being sought to implement the first phases of the integrated service delivery system. The roadmap to implementation shows that DHS, counties, and the people of Minnesota will begin to realize benefits of modernization before this time next year, with additional implementation of technology to support the integrated service delivery system occurring over the next three bienniums.

Redesigning Service Delivery-Planning for an Integrated Service Delivery System

#### XI. Appendix: Enterprise Systems Modernization Roadmap Report

<<Placeholder>>



# State of Minnesota

Department of Human Services

Enterprise Systems Modernization

Future State Requirements and Architecture Report

FINAL

kpmg.com

#### Purpose of this document

KPMG was engaged by the Minnesota Department of Human Services (DHS) to assist with the State's Enterprise Systems Modernization (ESM) initiative. This report is designed to present a logical architecture for the State's consideration as it moves forward with its ESM planning.

#### **Document History**

Version	Description	Date
1.0	First TOC and Outline	November 20, 2012
2.0	First new content	November 21, 2012
3.0 - 7.0	Revisions to previous versions to add and synthesize content from multiple sources	December 13-17, 2012
8.0	First draft submitted to MN core team	December 17, 2012
9.0 - 13.0	Revisions based on KPMG internal review and preliminary feedback from MN core team	December 18, 2012
14.0	Draft submitted for MN client review	December 20, 2012
15.0	Draft Modifications by Jennifer	January 15, 2013
16-25	Incorporation of comments and updates from review period	March 22, 2013
26-28	Final Updates	May 5, 2013

© 2013 KPMG LLP, a U.S. limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International, a Swiss cooperative. All rights reserved. Printed in the U.S.A.

KPMG and the KPMG logo are registered trademarks of KPMG International, a Swiss cooperative.

Restriction on Disclosure and Use of Data – This document contains confidential or proprietary information of KPMG LLP, the disclosure of which would provide a competitive advantage to others; therefore, the recipient shall not disclose, use, or duplicate this document, in whole or in part, for any purpose other than recipient's consideration of KPMG LLP's proposal.



## Table of Contents

#### Table of Contents

<ol> <li>Executive Summary</li> <li>Report Overview</li> <li>Target Operating Model and Requirements Overview</li> <li>Future State IT Architecture Overview</li> </ol>	4 4 5	
<ul> <li>2 Introduction</li> <li>2.1 Project Mandate</li> <li>2.2 Project Scope</li> <li>2.3 Purpose of this Report</li> <li>2.4 Approach to developing the Future State Requirements and Architecture</li> </ul>	6 6 7 8	
<ul> <li>3 Future State Architecture Approach and Concepts</li> <li>3.1 Architecture Levels</li> <li>3.2 Architecture Domains</li> <li>3.3 Architecture Artifacts and Traceability</li> </ul>	10 10 11 12	
<ul> <li>4 Target Operating Model</li> <li>4.1 Business Vision Summary</li> <li>4.2 Target Operating Model (High Level)</li> <li>4.3 Summary of Functional Requirements</li> <li>4.4 Summary of Non Functional Requirements</li> </ul>	14 14 14 20 23	
<ul> <li>5 Future State IT Architecture (High Level)</li> <li>5.1 Information Architecture</li> <li>5.2 Application Architecture</li> <li>5.3 Technology Architecture</li> </ul>		
6 Using and Maintaining the DHS Enterprise Architecture		
Glossary of Acronyms		
Appendices		
Appendix A: Documentation Reviewed		
Appendix B1: DHS Target Operating Model Details		
Appendix B2: MN DHS Business Functional Model Spreadsheet		
Appendix C: Information Architecture Details 55		
Appendix D: Application Architecture Details   78		
Appendix E: Technology Architecture Details		

1

Appendix F: Business Intelligence Requirements

#### List of Figures

Figure 1: High Level Schedule	7
Figure 2: Architecture Levels	10
Figure 3: Architecture Domains	11
Figure 4: Architecture Artifacts	12
Figure 5: DHS Business Context Model	17
Figure 6: DHS Business Top Model	18
Figure 7: High Level Conceptual Data Model	25
Figure 8: Application Architecture Application Component Categories	27
Figure 9: Program Management Components	28
Figure 10: Service Delivery Components	29
Figure 11: Business Management Components	30
Figure 12: Common Business Components	30
Figure 13: Technical Support Components	31
Figure 14: Communications Interface Components	33
Figure 15: Extracted portion of CRUD Matrix	34
Figure 16: Business Intelligence Framework	35
Figure 17: Application and Technology Architecture	39
Figure 18: Target Architecture (Conceptual)	42

#### Disclaimer

The purpose of this report is to document observations that came to our attention during our work and to offer our comments and recommendations for the State of Minnesota's consideration. Our procedures consisted of inquiry, observation, and analysis of provided information. Such work does not constitute an audit. Accordingly, we express no opinion on financial results, processes, other information or internal controls. The State of Minnesota is responsible for the decisions to implement any recommendations and for considering their impact. This report is meant solely for use by the State of Minnesota and may not be reproduced or shared with any third party without KPMG's consent except as may be allowed by the terms of our contract agreement.



# 1 Executive Summary

#### 1.1 Report Overview

The purpose of this report is to document the functional requirements and target architecture for the State of Minnesota Department of Human Services (DHS) Enterprise Systems Modernization (ESM) plan. These requirements and architectures represent the target which will guide DHS's implementation of solutions over the next several years to realize its Integrated Human Service Delivery vision for the citizens of Minnesota. These requirements and architectures will serve as the basis to develop a multi-year DHS ESM Transformation Roadmap to implement the future state information, applications and technology architectures described herein, to realize the target operating model and requirements for improved systems and information.

#### 1.2 Target Operating Model and Requirements Overview

The Target Operating Model for DHS integrated service delivery is intended to achieve the following high level vision (further defined in the <u>MN DHS Modernization Vision.V16.Final Draft</u> document):

### "A people-centered human services delivery system in which policy, people, processes, and technologies are aligned to serve the DHS mission"

- DHS systems will become more integrated, aligned and adaptive to change.
- Program and administrative efficiencies and effectiveness will increase.
- Integrated technologies and databases will better support information sharing and provide a holistic view of clients.
- Staff becomes more knowledgeable about the programs and services available to citizens and is able to apply their skills to do rewarding work.

The Target Operating Model described herein elaborates on the key functions required to realize this vision. It has been developed with an intentional focus on cross-program common functions, which have been cross-referenced to each of the program areas within scope to clearly identify opportunities for greater integration, standardization, and reuse of common functionality. The general functional requirements for improved systems and information are directly defined and associated with these functions. The functional model has been developed initially based on relevant federal government reference models and guidance, including the Medicaid Information Technology Architecture (MITA), Exchange Reference Architecture (ERA), and the National Human Services Interoperability Architecture (NHSIA). It has been significantly refined and expanded with extensive input and consultation from Minnesota stakeholders, brokered with the Business Architecture Domain Team, and includes extensive county and other participant involvement.

It is important to note that, while the objective of this project has been to define the Enterprise Systems Modernization plan, it has been recognized that implementation of the target operating model will have impacts from rationalization and alignment of program policy, and will also have important organizational impacts that need to be addressed in the roadmap.



#### 1.3 Future State IT Architecture Overview

A conceptual future state IT architecture has been developed, derived directly from the target operating model plus applicable federal guidance. This architecture is "logical," meaning that it is defined independent of any specific software products or legacy systems. It can be thought of as an "idealistic" target architecture needed to meet the functional and information requirements of the future state business model – it is "business driven".

This architecture includes functional requirements (the application architecture), information requirements (the information architecture) and technology requirements (the technical and non-functional requirements that support access to common functions and shared information across the state).

This "solution independent" architecture will be used to conduct a gap analysis to assess the fit and identify gaps with current legacy systems and with the suite of technologies acquired for the Minnesota Health Insurance Exchange.

KPMG has also identified the conceptual future state for business intelligence and reporting, and hasidentified the key points of integration with systems external to the core DHS program and service delivery business (e.g. SWIFT, MMIS, and several others).

This target architecture and gap analysis will be used to develop a multi-year transformation roadmap, cost benefit analysis, implementation plan, and cost estimates to implement the target enterprise systems modernization architecture.



### 2 Introduction

#### 2.1 Project Mandate

DHS has engaged KPMG to assist the Department in moving forward with its vision for an integrated human services delivery system and Enterprise Systems Modernization.

Specifically this initiative is intended to develop a strategic plan and roadmap for Enterprise Systems Modernization that supports DHS's vision for state-wide integrated human services delivery.

#### 2.2 Project Scope

The project scope includes the development of the following key deliverables:

- Funding Approach
- Requirements Analysis (Requirements and Architecture this report)
- Cost/Benefit Analysis
- Feasibility Study
- Alternatives Assessment
- Transformation Roadmap (and Budget)
- Request for Proposal Outline

As part of the Enterprise Systems Modernization project, all DHS programs are considered to be in scope for analysis. A summary of KPMG's program review can be found in Appendix B.

The project is taking an integrated, functional view across all programs. The following Cross Program Functions are considered to be in scope:

- Eligibility, Enrollment and other processes that result in the delivery of programs services (e.g. child support application processing)
- Assessmenst and Investigations
- Fraud, Waste and Abuse
- Compliance
- Claims Tracking
- Performance Management and Business Intelligence
- Data Management
- Other Functions needed to support DHS Programs

The project is intended to align and Integrate with the following initiatives (but not duplicate their analysis and plans):

Health Insurance Exchange – the ESM project intends to leverage solutions, infrastructure, and business capabilities from HIX as appropriate, and identify integration requirements



- Health Care Programs (to be handled by HIX and MMIS Modernization) exception Member Management – the ESM project will identify integration requirements with Health Care Programs eligibility and Exchange processes
- MMIS Modernization (Claims Payment/Provider Management) the ESM project will identify integration requirements with Claims Payment

The following will be out of scope for the Enterprise Systems Modernization planning project:

- Health Insurance Exchange the ESM project will not replicate requirements and plans for the HIX, but will identify integration required
- MSOP and SOS are considered out of scope for this modernization effort
- Health Care Programs Eligibility, Phase 1 (initial functionality) the ESM project will not replicate requirements and plans for the first phase, but will identify integration required
- MMIS Modernization (Claims Payment/Provider Management) the ESM project will not replicate or include requirements and plans for the MMIS Modernization (separately funded effort), but will identify integration required and some functionality currently in MMIS (e.g. Minnesota Care eligibility) will likely be moved, in part due to recommendations coming from this Modernization plan
- "Back Office" functions such as HR, Finance, Asset Management, and Procurement functions (other than to identify interfaces required to financial and HR business functions and systems)

#### 2.3 Purpose of this Report

This report, which is the Requirements Analysis deliverable listed in the Project Scope, documents a <u>high level</u> target operating model for integrated human services program and service oversight and delivery. Furthermore, this report presents a high level IT architecture (including application, information and technology architectures) to support the target operating model, which is the result of the first 2 streams of activity illustrated in the diagram below.







This report summarizes the detailed functional model containing state and county/tribal needs. The model was developed in a series of workshops listed in section 2.4. It is represented in a comprehensive supplemental spreadsheet including identification of functions and IT requirements to be supported by the envisioned business and technical architectures. The model is further described below and in Appendix B.

The architecture is intended to be conceptual, not physical, i.e. it is organization, platform and product independent. It represents an "idealistic" view of the operating model, applications components, information requirements, and technology infrastructure required to support the future business vision. It will be used to objectively analyze the fit of current systems and new systems in development (specifically the HIX solution set), and identify gaps. The Gap Analysis will be documented in the Alternatives Analysis deliverable, and this will lead to development of plans to migrate to the target architecture, to be documented in the Transformation Roadmap.

The resulting architecture is aligned with applicable federal guidance, including NHSIA, MITA, and the ERA. KPMG's Enterprise Reference Architecture (KERA) has also been used as an input. KERA has been aligned with the above federal architecture standards, and has been enhanced through KPMG's experience working with state and federal health and human services organizations.

It is important to note that, while these inputs have been used to accelerate the process and align with federal guidance as required, the resulting requirements and architecture represent the state's needs for integrated human services delivery.

#### 2.4 Approach to developing the Future State Requirements and Architecture

KPMG has applied its proven Enterprise Architecture Planning methodology to this initiative. The methodology has been adapted to provide the specific deliverables required by the state. KPMG's methodology has been developed, applied, and refined over the past 20+ years. It has been aligned with industry standard methods and frameworks, including

- The Open Group Architecture Framework (TOGAF) is one of the "standards" in the world of Enterprise Architecture, and it also defines many standards for the practice of Enterprise Architecture. It is designed to help people in an Enterprise speak the same language when they talk about, for example, a business function, and it defines a lot of practices for the field.
- the Zachman Framework, a way of labeling and categorizing aspects of an Enterprise.

The approach we took has been successfully applied on hundreds of projects in the last 20 years; the majority of those projects are public sector projects, and many are in the health and human services sectors. Many of these initiatives have resulted in the development of enterprise-wide architectures and multi-year transformation plans.

To develop this deliverable, KPMG has performed the following:

Reviewed documentation provided to KPMG (Appendix A lists the documentation reviewed to develop this deliverable).



- Summarized the DHS Business Vision for integrated human services (refer to the <u>MN DHS Modernization</u> <u>Vision.V16.Final Draft</u> document, which documents the summarized business vision).
- Developed a "straw model" of Business Functions, using NHSIA, MITA, ERA and KERA as inputs, plus relevant documentation provided by Minnesota.
- Conducted a series of consultations to gather requirements and develop the future state architecture (i.e. refine, enhance and extend the straw model), through the following consultations:
  - Ramsey County Department of Human Services visit (9/19)
  - > Hennepin County Human Services and Public Health Department visit (9/20)
  - > Target Operating Model Workshop 1 (9/26): Intake, Registration, Assessment, Eligibility Determination
  - > Target Operating Model Workshop 2 (9/26): Case Planning and Service Planning
  - Target Operating Model Workshop 3 (9/27): Case Management / Service Delivery (Provision of services in accordance with plans, including Payments, Interventions, Care & Rehabilitation, Education, Protection, etc.)
  - Target Operating Model Workshop 4 (9/27): Provider Management (focus on non-MA providers) including licensing, regulation, agreements, rates, payments, etc. and Financial Management
  - > Target Operating Model Workshop 5 (9/28): Compliance and Recovery Management
  - Target Operating Model Workshop 6 (9/28): Program Evaluation, Performance Management, Business Intelligence, Public Reporting
  - Data Warehouse Workshop (11/6)
  - Audit Workshop (11/6)
  - Minnesota Sex Offender Program and State Operated Services Workshop (11/8)
  - Long Term Services and Supports (LTSS) Workshop (11/8)
  - Financial Architecture Domain Team Workshop (11/8)
  - Dodge County Human Services Department visit (11/8)
  - Steele County Human Services Department visit (11/8)
  - Southwest Health and Human Services virtual visit (11/16)
  - Long Term Services and Supports Follow-up Workshop (11/27)
  - Morrison County virtual visit (11/28)
- Drafted this deliverable



### 3 Future State Architecture Approach and Concepts

The Future State Architecture has been developed using a top-down, business driven approach. In this planning project, the focus has been on ensuring that KPMG covers the full breadth of scope rather than on drilling down in detail. KPMG needed to consider relevant aspects of DHS programs and functions first and then elaborate the architecture deeply enough to develop a high level plan that is comprehensive in scope. The completed high level plan will lay out the direction for the detailed design and implementation work to be performed in later projects that are identified in the roadmap.

#### 3.1 Architecture Levels

The following diagram depicts the levels of architecture.

Figure 2: Architecture Levels





This report describes the high level Conceptual Design (the Target Operating Model described in section 4), which defines the business requirement for IT solutions. The Logical Design is also defined in this report at a high level, in section 5 (Future State IT Architecture).

The Gap Analysis and Vendor Fit-Gap Analysis are documented in the Alternatives Analysis Deliverable. KPMG will use these analyses to make planning assumptions regarding reuse and/or acquisition of systems. KPMG will not conduct detailed procurement assessments of products in this project – KPMG will define planning assumptions, and create projects in the roadmap as needed to do detailed product evaluation and selection should it be required.

#### 3.2 Architecture Domains

This architecture addresses the domains depicted in the diagram below.



#### Figure 3: Architecture Domains

Linking business vision with investment in IT capabilities

The Business Architecture is described in Section 4 - the Target Operating Model.

The Information, Application, and Technology Architectures are described in section 5 – Future State IT Architecture.

Security Requirements are incorporated into these architectures as required for this level of planning. There are security related business processes in the target operating model, and security related application and technology components defined in the IT Architecture.



#### 3.3 Architecture Artifacts and Traceability

KPMG has defined only those architecture artifacts needed to develop a high level transformation roadmap. There are other important and more detailed architecture artifacts that will need to be designed as projects proceed from high level planning to Design and Implementation. It is important to be able to demonstrate the traceability of the design from one artifact and domain to another.

The following diagram illustrates the key artifacts KPMG has developed and incorporated into the overall DHS ESM architecture, and shows how they interrelate and which domain they are included in.



Figure 4: Architecture Artifacts

**Figure 4:** Architecture Artifacts illustrates that the business architecture (target operating model) identifies programs, functions, and locations, defined to 3 or 4 levels of detail ("leaf level" business functions).

The Information Architecture is represented as a conceptual data model.

The application architecture defines business application components and technical application components. The business application components automate or support the business functions, providing traceability from





the application architecture to the business model. The technical components provide important technical capabilities utilized by business application components, such as database management, security access control, and systems management.

Leaf level business functions (i.e. the lowest level functions defined in the functional business model) are a key artifact that provides the linkage and traceability between the business, application, and information architectures. These functions are mapped to the conceptual data model, helping ensure mutual consistency between the information and application architectures. This is done using a "CRUD" matrix, which identifies which business functions create, read, update, and delete each data entity in the information architecture. This mapping provides a good initial indication of functional complexity for estimating purposes, and helps ensure completeness (all entities must be created and used by a function – all functions to be automated must have some information requirement).

Business and technical application components are deployed onto technology nodes (both client and server nodes as required) which are connected via network links. This is used to define the deployment model and to estimate requirements for hardware products and network infrastructure.

The diagram also shows how KPMG traces back the different business function and conceptual data model artifacts to the federal reference models.

In the alternatives analysis deliverable, KPMG will document the gap analysis and options for reuse of Minnesota's current business and technical applications and software products, and hardware infrastructure.



### 4 Target Operating Model

#### 4.1 Business Vision Summary

The business vision for integrated human service delivery in Minnesota is defined in the <u>MN DHS</u> <u>Modernization Vision.V16.Final Draft</u> document. The vision is summarized as follows:

### A people-centered human services delivery system in which policy, people, processes, and technologies are aligned to serve the DHS mission"

- DHS systems will become more integrated, aligned and adaptive to change.
- Program and administrative efficiencies and effectiveness will increase.
- Integrated technologies and data bases will better support information sharing and provide a holistic view of clients.
- Staff becomes more knowledgeable about the programs and services available to citizens, and is able to apply their skills to do rewarding work.
- Clients, support networks, and providers will be more engaged in case outcomes and service planning.

The vision document identifies the key stakeholders and participants involved in human services delivery, including, most importantly, the clients of human services delivery. The vision identifies how the integrated vision will improve outcomes for clients and other participants, including counties/tribes, and the state (DHS). Refer to the document for details.

#### 4.2 Target Operating Model (High Level)

The target operating model defined in this section describes the programs, business functions and key location types that will be needed to implement the vision for integrated human services.

#### 4.2.1 Programs

The following table summarizes the categories of programs included within the scope of the DHS target operating model. These categories are derived from the program areas and service domains defined in NHSIA.

Program Area/Service Domain	Program Area/Service Domain Description
Adoption/Foster Care	This program area/service domain focuses on initiatives in adoption and foster care including child placement and permanency programs as well as adoption services provided by government and private entities.



Program Area/Service Domain	Program Area/Service Domain Description
Child Care	This program area/service domain includes child care initiatives related to the temporary (daily) care of children and child development services.
Child Protection	This program area/service domain includes initiatives in child welfare (abuse and neglect) and services for children (and their families) who are victims of abuse or neglect including child safety and prevention programs.
Child Support	This program area/service domain includes initiatives in child support and services to help to secure payment from parents for support of children (as mandated by court rulings).
Aging and Disability	This program area/service domain includes services and initiatives for aged and disabled clients including long-term care, alternative care, nursing homes, home-and community based services, etc.
Vulnerable Adults/Domestic Violence	This program area/service domain includes initiatives and protective services for victims of domestic violence and vulnerable adults.
Education (lifetime scope)	This program area/service domain includes education initiatives including community outreach, helpdesk functionality and referrals to community resources and partners.
Employability	This program area/service domain focuses on employability initiatives such as Pathways to Employment or the Diversionary Work Program to help people reach self-sufficiency.
Financial Assistance	This program area/service domain focuses on initiatives in financial assistance - including Temporary Financial Assistance to Families (TANF) referred to as MFIP (Minnesota Family Investment Program) in Minnesota, and child care assistance - designed to help needy families achieve self-sufficiency.
Food/Nutrition	This program area/service domain includes initiatives related to food and nutrition such as the Federal food assistance program – SNAP. Programs in this area are to provide benefits to help clients purchase and obtain food-related products.
Housing & Energy Assistance	This program area/service domain includes initiatives and services to provide eligible families and clients with housing resources and assistance, and includes such programs as the Telephony Equipment Distribution program.



Program Area/Service Domain	Program Area/Service Domain Description
Parenting/Family Planning	This program area/service domain provides parenting and family planning services to eligible families and clients, for example via the MN Family Planning Program.
Public Health	This program area/service domain focuses on initiatives and access to services that aim to improve health and quality of life of clients through treatment and prevention.
Substance Abuse and Mental Health	This program area/service domain focuses on the treatment and prevention of substance abuse/chemical dependencies including drug and alcohol and furthermore includes initiatives and services for mental health including child and adult mental health via community- based services and treatment facilities.

A summary of the programs delivered by DHS under each of these program categories can be found in Appendix B. Some services were not categorized, e.g. services delivered under the Minnesota Sex Offender Program, but are included in the scope of programs reviewed.

#### 4.2.2 Functional Model

#### 4.2.2.1 Background

The model was developed as described above, by starting with federal reference models (NHSIA, MITA, and ERA) and also the KPMG Enterprise Reference Architecture.

The model has been refined based on input received from functional modeling workshops conducted on September 26-28, 2012, November 6, 2012 and November 8, 2012. It has also been informed and updated based on meetings with a representative set of Counties as noted above. KPMG has added and refined definitions of functions and structured the business functions and processes to help ensure that they reflect Minnesota DHS functions. KPMG has also aligned all functions to the accepted national frameworks referenced above. KPMG has reduced duplications and inconsistencies. KPMG has incorporated feedback from BADT representatives and other participants from two review cycles to help ensure that the model reflects all key functional requirements.

Functions and processes have been assigned and grouped to business context levels, per the Business Context Top Model. (See below.) Business functions and processes have been identified as either local (i.e. county or tribe) or statewide functions and processes.

Business functions and processes at the lowest level of the functional hierarchy have been mapped to each applicable NHSIA program domain. This illustrates the extent to which each function is common across programs.

Non-functional requirements and enterprise-level requirements have been identified.



#### 4.2.2.2 Business Context Top Model – Business Functional Groups

The Business Context Top Model (**Figure 5: DHS Business Context Model**) contains five new business context levels that group the business functions and processes identified earlier. The new level allows mapping of the business functions and processes based on:

- owner and accountability (State or Local County and Tribe), as well as
- service delivery and support functions.

DHS Direct Service Delivery represents state-delivered services and inherent functions and processes. DHS Distributed Service Delivery represents service delivery at the local (i.e. county, tribe, or other partner) level.





The model in **Figure 5: DHS Business Context Model** also shows key areas with which the core business functions must interoperate. This includes support functions for the State and local entities as well as overarching governance and monitoring functions at the Federal and State levels. It also includes related program areas where key interactions have been identified.



DHS is implementing the business model and enabling systems required to support a Health Insurance Exchange The exchange is a key feature of the Affordable Care Act which is designed to make affordable health insurance available to eligible people. DHS has an opportunity to leverage this investment and to gain Federal funding by aligning ESM with the HIX implementation. In practical terms, this means that some infrastructure provisioned for the HIX can be reused, new integrated systems can be designed to be interoperable with the HIX and shared components can support higher quality service delivery. As the HIX is currently under development, the ESM initiative has used preliminary information as a basis for its planning. Subsequent iterations of design and planning will continue to support alignment between initiatives.

Figure 6: DHS Business Top Model illustrates the level one "context level" functional groupings.



Figure 6: DHS Business Top Model

**Figure 6: DHS Business Top Model** depicts the functional scope addressed by the Enterprise Systems Modernization business architecture. All DHS program governance and monitoring, and both direct service delivery (programs and services delivered by the state) and distributed service delivery (programs and services delivered by counties, and tribes, often with other contract service providers), are included in KPMG's scope, with the exception of Medical Claims Management. In terms of direct service delivery, KPMG is not addressing


the architectures needed to support the Minnesota Sex Offender Program or the State Operated Services program area, but state service delivery functions involved in service delivery for all other DHS programs are included within scope.

DHS Direct Support Services include the "back office" functions of DHS, which are not included in Enterprise Systems Modernization. Likewise, the county and tribal level support services (back office functions) are not included within scope for modernization. However, interfaces with all of these "out-of-scope" functions are included.

With various parties involved in the management of programs, it is important to make sure there are clear expectations and accountabilities across back office services so that client facing programs can be operated effectively. For additional efficiency and effectiveness, DHS may wish to work with stakeholders to evaluate how back office functions are delivered. For some programs, it may be feasible to centralize these functions, reducing the overall complexity and cost associated with service delivery. For instance, the state may centrally manage financial services related to programs or may take on additional information technology services.

Each of these functions is further decomposed and defined in the Functional Model spreadsheet which is described in Appendix B.

#### 4.2.3 Location Types

The Location Types artifact is a simple list of the types of locations that are involved in DHS program and service delivery. It represents the "network" dimension of the business model.

The seven main location types that need to be supported by network connectivity and access in the future state are as follows:

- DHS Location
- County/Tribe Location
- Federal Government Location
- Provider Location
- Client Location
- Hearing Location

Further detail on location types including sub-types and descriptions can be found in the Functional Model Spreadsheet, an overview of which is provided in Appendix B.

Location Types are an important design consideration in order to meet the overall vision and objectives of the Enterprise Systems Modernization initiative. They represent requirements to improve customer service by providing remote access to client self-service capabilities from client homes, and to support an increasingly mobile workforce to access systems and information from remote locations including home offices as well as client locations.



#### 4.2.4 Other Target Operating Model Considerations

There are other business architecture artifacts which have not been required to carry out this high level planning project, but which will be important to consider developing in future projects to design and implement the new systems capabilities.

#### 4.2.4.1 Program Policy Alignment

It has been beyond the scope of this project to review, refine, and align program policy across the set of DHS programs. However, since the business vision is more integrated DHS program and service delivery, and particularly to improve both customer service and operational efficiency, improved streamlining and alignment of program policy and process will make a big contribution to achieving this business objective. Systems modernization can enable this, but will be constrained by policy. This is a challenging undertaking because of the implications on both state and federal legislation, but KPMG assumes some improvements are possible. Accordingly, KPMG will build initiatives to review, streamline, and align program policy into the transformation plan.

#### 4.2.4.2 Organizational Model Alignment

One of the key considerations for implementing systems to support more integrated delivery of human services is the impact on organization. KPMG's guiding principle has been to design the future state IT Architecture to support flexible configuration of workflow and business rules, with the objective of enabling individual service provider organizations to organize the work of DHS program and service delivery in ways that are most suitable to local circumstances. For example, KPMG's assumption is that different counties have very different service demand volumes and different geographic and demographic needs, so a single organizational model for service delivery is not realistic.

It is important to note that, even given the need to support flexible organizational models, it will be important in future phases to clarify roles and accountabilities to some level of organizational design, and also to identify changes in knowledge, skills and behavior that are required to take advantage of new system capabilities. Accordingly, KPMG will build into the roadmap the tasks and activities to do process redesign, organizational impact assessment, and organizational redesign as necessary to realize the benefits of the modernization investment.

## 4.3 Summary of Functional Requirements

The Functional Model described in Appendix B identifies detailed functional requirements to be supported by the Enterprise Systems Modernization future state IT architecture. In this section, KPMG summarizes those requirements.

# Single Shared Client Data Base and Common Case Management to support all in scope DHS Programs and Services



This provides:

- Ability to share data across programs and cases (as privacy rules permit) while eliminating need for duplicate client or case data entry
- Maintenance of client/family relationships
- Ability to align and integrate service plans across programs
- Case banking and teaming
- Integrated Eligibility Determination
- Integration of client documents and images
- Ability to align and improve policy across programs (to simplify program rules where appropriate)
- Ability to customize workflow within policy constraints
- Client notifications
- Life-even reporting

#### **Client Self Service**

- Provide Clients Access via Web Portal and Mobile Devices to:
  - o Policies, program and service information, including client program notifications
  - Service request applications
  - Appointment scheduling
  - o Self-assessments
  - Case status inquiries
  - Case history inquiries
  - Provider information inquiries
  - o Payments
  - Life event reporting
  - o Client notifications
- Provide Clients Access via IVR to:
  - Program and service information
  - Case status inquiries
  - Appointment scheduling



- Provide Clients Access via Text Messaging an E-mail to:
  - o Notification of availability of new relvant client information, appointment reminders

#### Client Support (Call Center)

Provide Clients with:

- Program and service information inquiries
- Case management inquiries
- Appointment scheduling
- Service application assistance

#### **Document and Content Management**

In support of:

- Client related documents and images integrated with case data
- Program and service policy and procedure content collaboration and publishing

#### **Provider / Contract Management**

In support of:

- Integrated provider registry
- Ability to manage provider certifications, qualifications, licenses
- Ability to manage provider contracts

#### **Program and Service Management**

To provide:

- Maintenance of master program and service catalogue
- Service rules management configuration of eligibility rules, workflow rules
- Maintenance of master service delivery locations
- Definition of service access methods available by service
- Maintenance of staff program and service qualifications
- Maintenance of staff schedules and work assignments



#### **Program Financial Management**

To provide:

- Ability to manage overall program budget
- Ability to track program funding allocations state, county and client levels

## 4.4 Summary of Non Functional Requirements

The Functional Model described in Appendix B identifies non functional requirements to be supported by the Enterprise Systems Modernization future state IT architecture. The following categories of requirements have been defined:

Category	Description
Network & Communications	Network, and systems management interfaces; Wireless connectivity and air cards; Associated Standards and Protocols etc
Response	Response time, concurrency, updates, resources usage, load balancing, storage, report generation, system speed etc
Capacity	Transactions per hour (Throughput), Store data capacity (Storage),
Scalability	Number of users, transactions and the general rate of growth (year-on-year)
Reliability	Defects, uptime, and data quality etc
Availability	Availability in terms of system, support, remote access, offline, third party and online
Supportability	Must include Setup, user and configuration documentation and guides, maintenance and repairs, monitoring, etc
Recoverability	Recovery time, recovery points., fault tolerance, disaster recovery etc
Flexibility	Flexibility in changing configurations, and support custom reporting internally and externally.
Scalability	System growth, horizontal and vertical scaling.
Security	All aspects of security (i.e., network, privacy, authentication, auditing, authorization etc) and security policies.
Usability	Support for multiple languages, help requirements, GUI standards, user friendly and standard interfaces.
Interoperability	Data Exchanges with other systems
Data Management	Management data linking, referencing, auditing, collections, mining and metadata manage type activities



Category	Description
Accessibility	Single Sign on, client self service, portal and remote access etc.
Document Management	Downloading and generation of documents
Interfaces	Interfaces with various systems

A number of assumptions will be derived which will reflect the quality, quantity, and type of infrastructure deployed required to support the documented non functional requirements.



# 5 Future State IT Architecture (High Level)

This section describes the Information, Applications and Technology Architectures at a conceptual, productindependent level. As described above, this represents a logical architecture, not a physical architecture that is product and solution independent.

## 5.1 Information Architecture

The information architecture for DHS Enterprise Systems Modernization represents the high level information required to manage and operate the integrated program and service delivery functions. It is represented in the form of a conceptual data model. The conceptual data model identifies information subject areas, key data entities, and key data relationships between entities. It is not intended to be a comprehensive and detailed set of data entities or relationships, but depicts the major categories of data that need to be captured and managed to realize the future state vision. In later projects, this conceptual data model will be elaborated into a logical data model that identifies all data elements that need to be captured and maintained. It will ultimately be implemented as physical data bases and data stores.

The diagram below illustrates the highest level view of the conceptual data model.



Figure 7: High Level Conceptual Data Model



At the highest level, common, shared data about clients and families, and the case management information subject area, are at the heart of the integrated data model. This will enable assignment and tracking of specific programs and services to be organized across program areas if need be, subject to the workflow and business rules established for each program. Similarly, it will enable flexible assignment of workers and organizations, as well as contractors and service providers, which will include service teams. Content (including documents and images) and communications also need to be tracked and linked to client cases. A common approach to agreements (including contracts and service level agreements) will enable ongoing management of organizational roles and responsibilities. Tracking of finances in the form of budget allocations and actual financial transactions is also critical; this will be an area for integration with state and provider level financial systems.

Appendix C contains more detailed conceptual data model diagrams for each of the information subject areas depicted in the high level model, along with brief descriptions of each key data entity, describing the information requirements.

The key entities of the data model have been cross-referenced to each of the functions identified in the target operating model. This mapping is described in the Application Architecture, below.

## 5.2 Application Architecture

The Application Architecture illustrates the "logical" (i.e. "product independent") application components required to support the target operating model. It can be thought of as "unconstrained" by specific products or legacy system implementations, and, as previously described, it is used to objectively evaluate the appropriate fit and gaps of both legacy systems, and candidate software products, in terms of how well they meet the requirements of the future state.

KPMG has also included in the Application Architecture the following subsections:

- A description of the CRUD matrix,
- A conceptual depiction of the business intelligence environment that would be required to support "reporting" application components as well as ad hoc reporting, and
- A summary of integration required with external systems.

#### 5.2.1 Application Architecture Component Model

The application component model has been developed by mapping the detailed functions in the target operating model against the entities of the conceptual data model. Application components are the logical groupings of functions that tend to manage and use a common set of data entities. KPMG has leveraged the application components identified in the various reference architectures (NHSIA, MITA, ERA and KERA) to accelerate the development of this Application Component Model.

This process has identified a set of business application components, which automate the support for functions in the target operating model. The diagram below illustrates the high level groupings of business application components.





The diagram also illustrates a set of technical application components. These components describe technical infrastructure that is needed to support the business application components.

Figure 8: Application Architecture Application Component Categories

## **Application Architecture**



Application architecture components fall into the following categories:

- Business Application Components that support directly support business functions, including:
  - o Program Management Components that support management of programs and services
  - Service Delivery Components that support management of services being provisioned to clients, including assessments and investigations, eligibility determination, payments, etc.
  - Business Management Components that support "back office" administrative and management of DHS operations across all functions
  - Common Business Functions that provide functionality that is used in all aspects of operations including management and delivery functions
- Technical Application Components that technically enable other components and processes, including:
  - o Technical Support Components that provide technical infrastructure for services



 Communications Interface Components that support communications and access methods between systems and stakeholders

#### 5.2.1.1 Business Application Components

Business application components are components that directly support users and other system stakeholders in performing their roles. These components will typically have a user interface and may have wide visibility with business stakeholders.

There are four categories of business application components described in the diagrams below:

Figure 9: Program Management Components



**Program Operations** will support overall management of programs and services. These components also support the management of delivery partners and functions that are used by many services.

**Program Oversight** provides the overall management of programs and services with components that support performance monitoring, program/service awareness and policy.



#### Figure 10: Service Delivery Components



**Client Management** provides components that manage client information and facilitate transfer of clients from one service delivery center to another, and the delivery of multiple services through teams as well as individual workers or through self service.

**Assessment, Eligibility and Enrollment** provides components that manage a client's entry into service or a program. These components provide functions that enable decision making about which programs and services should be provided to a client. Included in this component are investigations of child abuse and neglect, investigations of vulnerable adult maltreatment, action on applications and referrals for child support collections, employability assessments, triage for emergency needs and referrals, etc.

**Service Management** components cover the operational and service delivery to clients. They support delivery services across agencies and organizations and help maintain client progress towards outcomes. Service Management also contains case management functions which are critical to managing services in an integrated fashion.

**Administration** components, including user administration, provide online configuration of system components. Many systems provide flexibility and ability to change system behavior through administration utilities.



#### Figure 11: Business Management Components



**Corporate Services** provides components that would be used across the organization to support both core and management functions. These include the services that manage business relationships, business assets, workforce support, management of corporate policies, and corporate risk.





**Collaboration** provides components that support people working together and sharing information. For instance, it might support the sharing of information and group collaboration between case workers. It also provides other significant capabilities including components that manage written communications between parties and the technology that supports a contact center, serving clients, providers, and county workers.

**Information Management** component facilitates the collection of data pertaining to system performance and usage patterns and creates reports to improve system performance and service offerings. This component also supports recordkeeping and enables scanned documents, including collateral in support of eligibility assessment and determination. It provides for reporting, including the creation of various report types based on business needs, ad-hoc reporting, business intelligence, records and document management, integration of analytics and management of analytic templates, along with management of data sources.

**Workflow and Rules Management** enables the management of business processes. It manages notifications, alerts, and workflow rules as pertaining to case manager assignments and workload management; intake; consumer screening, assessments and eligibility determination; waitlist management, and service planning, among other tasks.

Appendix D defines the detailed business functions supported by each of the business application components.



#### 5.2.1.2 Technical Support Components

Technical Support Components are components that indirectly support the business by supporting other components as part of an integrated solution.

There are two categories of technical application components described in the diagrams below:

Figure 13: Technical Support Components





Application Development Lifecycle Management provides components that define and manage the application development frameworks as well as the tools for code development, promotion and maintenance

**Business Intelligence and Data Warehouse** provides components and tools that enable provisioning of data for reporting and analysis, used to enable business application components that report and provide insight needed to make business management decisions.

**Confidentiality Management** system components identify personal and confidential information and those who should have access to the information.

**Data Management** system components enable management of data including operational and aggregate data, including the transformation of data for use by different systems without compromising privacy.

**Identity and Access Management** components support the unique identification of those accessing the system and the control of access to sensitive functions and data, including personal information of parties using DHS services. The component facilitates audit trail and compliance management, message encryption, data security, and the management of identity/access privileges.

**Intrusion Management** components prevent, log, analyze and negate system access violations from both internal and external origination points.

**System Interoperability Management** supports the flow of data and transactions across system boundaries. The components will maintain data and transactional integrity and will be configured to support development of solutions based on legacy, custom, or packaged products.

**Workflow and Rules Processing** components support the execution of system workflows. The workflow engine enables work tasks to be automated and distributed to designated individuals. The business rules engine will both manage and execute business logic.

**IT Management** components support the management and maintenance of DHS IT resources (both hardware are software). The components provide monitoring of resources, deployment of resources and tracking of issues and problems.

**Infrastructure** components provide the underlying technology required to support other components. In this case, RDBMS, which manage relational data, and application servers, which implement generic capabilities in applications, are noted. It is expected that additional infrastructure components will be noted as technical prerequisites for products when identified.



#### Figure 14: Communications Interface Components



**Access** components support the presentation of information to system users. Access supports multiple ways of accessing services and information. One of the goals of access is to provide a good quality experience across access methods and to make sure that information is consistently provided to the user.

**Unified Communications** components support different ways for the state and its external stakeholders to communicate.

#### 5.2.2 CRUD Matrix

The CRUD matrix documents the information requirements of each function defined in the target operating model. For each function, KPMG has defined the key entity instances which are:

- Created or Captured by each business function (depicted by a "C"),
- Referenced or Read by the function ("R"),
- Updated by the function ("U"), and
- Deleted by the function ("D").

It is understood that a function that creates an entity instance often must be able to read, update, and delete the entity instance, so KPMG typically only shows R when the entity is only read by the function; it cannot be created, updated or deleted. Similarly, KPMG only shows U and D when the function does NOT perform a Create.

The following illustration shows an example extracted from the CRUD matrix.



#### Figure 15: Extracted portion of CRUD Matrix

Business Context DHS	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Person	Person Information	Agency-specific Person Information	Person Attachment	Person Legal / Court History	Person Need	Family / Relationships	Household	Person Service Enrolment	Access Authorization (Consent)
Distributed													
Service	DHS Distributed Client												
	Management												
		DHS Distributed Client Information Management											
			Preliminary Identification of Client Needs	R	R	R	R	R	RU			R	
			Manage Client Triage	RU	CU	RU	CU	RU	CU	CU	CU	R	
			Process Referrals	R	R		R	R	R	R	R	R	
			Manage Client Intake	CU	CU	CU	CU	CU	CU	CU	CU	CU	CU
			Establish Client Account	CU	CU	CU	CU	CU	CU	CU	CU	CU	
			Manage Shared Client Information	CU	RU	RU	RU	RU	R	CU	CU	RU	

As noted above, the CRUD matrix serves two purposes: it provides a completeness or integrity check (to help ensure that the conceptual data model and conceptual application business component models are mutually consistent), and it gives a valuable means of estimating the functional complexity of each component (which is a key input to estimating design, implementation and support work effort and cost). This will be further described in the Transformation Roadmap Deliverable.

Appendix D describes the full CRUD matrix.

#### 5.2.3 Conceptual Model for Business Intelligence

The need for improved and comprehensive support for business intelligence, including performance management reporting, governance reporting, compliance reporting, operational reporting, and audit compliance is fundamental to achieving the goals of seamless customer service, integrated program and service delivery, and continuous improvement of DHS programs and services to meet human services client needs in a cost effective way. The framework is depicted in Figure 16: Business Intelligence Framework below.



#### Figure 16: Business Intelligence Framework



The framework provides the basis for a structured approach to tackling complex business intelligence and information management challenges. These six dimensions are the most important elements to take into consideration in order to build an effective business intelligence capability and avoid the typical reasons for failure. Using this framework helps ensure KPMG takes a holistic view of the opportunities, requirements, and challenges. The framework supports the development of initiatives in the DHS Enterprise Systems Modernization roadmap which will help ensure that all required dimensions of successful implementation are incorporated, and prioritized to provide the most valuable business benefits, aligned with key milestones and dependencies across the rest of the roadmap.

#### 5.2.3.1 Governance

Business intelligence governance needs to be directly aligned with overall information management and systems improvement governance. As such, the roles of current governance bodies (the Enterprise Architecture Board, Business Architecture Domain Team, Data Architecture Domain Team, and Technology and Applications Architecture Domain Team) needs to be clarified with respect to governance of information management, business intelligence, and reporting. Governance needs to specifically address the following accountability areas:

- Data quality management/stewardship



- Data standards management
- Portfolio management

The following governance processes need to be clarified:

- Business and technical alignment
- Prioritization
- Funding allocation
- Measurement
- Arbitration
- Program management

## 5.2.3.2 Business Alignment

The target operating model workshops and the resulting business functional model identified a number of requirements that can be satisfied by data warehousing, business intelligence and data mining capabilities. KPMG has analyzed the detailed target operating model described in Appendix B using the following categorization, to classify the requirements from a business intelligence perspective:

- **Simple Reporting**: reporting of activities, simple outcomes vs. targets, financials
- **Complex Reporting:** quality, efficiency, effectiveness, analytics, forecasting, requiring multi-dimensional views of the data
- Data Mining: surveillance (transaction pattern identification/discovery), social networks (relationships pattern identification/discovery)
- **Statistical:** outcome identification, KPI analysis
- Visualization: pattern visualization, spatial patterns, complex measures/KPIs
- Geospatial: a specific form of Visualization showing any of the above in a map; provide geo-location-based queries

This categorization assumes that "business intelligence" is a capability required to perform certain business functions. The detailed mapping of business intelligence and reporting needs against the business functions can be found in Appendix F. The following is a summary of the key features and requirements of the future state model that pertain to business intelligence and reporting (summarized from the target operating model workshops and related meetings):

- State and County Operations
  - Performance Dashboards



- Internal program views, organizational views
- o Operational Reports
- Contract Provider Performance Reporting
- Program evaluation and program, service and policy design
  - o Simplified data marts and tools to support end user ad hoc query
- Audit
  - Data analytics
- Federal Government Compliance Reporting
- Public Reporting
  - Public Reports
  - Public performance dashboards

#### 5.2.3.3 Performance Management Process and Reporting

Performance management includes the following general goals:

- To learn and improve (performance in relation to program goals and outcomes what is working and what is not?)
- To report externally and demonstrate compliance
- To control and monitor service delivery (workers, providers, contractors)

Performance management is accomplished by:

- Understanding what indicators are required to learn and improve
- Putting in place targets to measure against, and processes to capture and report
- Separating out or accounting for external environmental factors that may impact the measures, outside of DHS's control (i.e. "independent variables")
- Fostering a continuous learning culture to drive performance (own the indicators, understand "your" contribution to them and how you can do better)

A performance oriented approach will inevitably create a need to continuously change and enhance performance measures to enable continuous improvement, which means that the business intelligence environment needs to be flexible and agile.

#### 5.2.3.4 Information Architecture - Integrated Information Management

In general terms, the idea of a data warehouse is to make available all operational data collected by all operational systems, and integrate it appropriately to enable useful information and intelligence to be extracted.



The scope of the data warehouse is enterprise-wide – a single integrated environment is required. The information architecture required to support Enterprise Systems Modernization is described in section 5.1.

From a business intelligence perspective, the information architecture must include and make available to users the *metadata* which describes the data content of the business intelligence environment. Identification and maintenance of this metadata is important to help ensure that the meaning of the data and information accessed via the data warehouse / business intelligence environment is properly understood by users. Maintaining this metadata is critical to making the environment useful to end users

Master data management is another key information management concept required to enable data integrity, particularly across multiple systems that may have common data. The most obvious and relevant example for DHS programs is client data; DHS needs to be sure that clients can be commonly identified across operational systems in order to view integrated data about clients. The "Master Person Registry is an example of a master data management system component required to enable common client identification across systems.

Other data normalization or information management requirements include:

- Common Codes standard set of reference tables/codes to help ensure consistency in data use
- Measures and KPI definitions
  - o What is measured, units of measurement
  - o Standard KPI definition and calculations
  - o Expected (reasonable) value ranges



#### 5.2.3.5 Application and Technology Architecture

Application and Technology Architecture for a business intelligence and data warehouse environment will identify the business and technical application components needed to manage the environment. It also identifies the integrated data stores and data sources required. The following diagram illustrates the conceptual view of the business intelligence and data warehouse environment:

#### Figure 17: Application and Technology Architecture





The operational data store is typically a physical integrated view of the fully normalized enterprise-wide logical information architecture (this will ultimately be elaborated starting from the conceptual information architecture defined herein, to the extent it can be extracted from existing data sources). The EDW (Enterprise Data Warehouse) represents the same data organized into a more accessible and easy to use format (generally denormalized to some extent). Specific "data marts" or analytic cubes can be extracted to focus on subsets of the EDW relevant to specific reporting applications, and also to support focused ad hoc query.

#### 5.2.4 Integration Requirements

The following key features constitute the preliminary requirements identified to date in the target operating model workshops, for future state data integration to include integration with:

- Local Service Providers
  - Master Client Data (where local client DB's exist) these interfaces use SMI or the Master Person Registry to synchronize client identification data between the state and local service provider
  - Financial transactions integration with local financial systems
  - o Documents integration with local document and imaging
  - o 311 integration with county-centric contact centres
- State Systems
  - o SMI enables integration of client data across multiple state and local systems
  - o MMIS integration of MMIS clients for claims eligibility
  - SWIFT integration with state financial system
  - SOS (Phoenix) integration with state operated services
  - MSOP (Avatar) integration with the Minnesota Sex Offender Program
  - EHR (EPIC) integration with the State Health Information Exchange
  - Workforce1 integration with employment service providers
  - Court Systems integration of court related transactions
- Other State Systems (to be determined)Federal Government Systems integration with various state systems

As part of this modernization, we may consider options to extend Curum to other agencies who deal with similar clients and perform similar functions. Examples of this include: Workforce 1, WIC and LIHEAP. This will likely introduce additional governance requirements.



## 5.3 Technology Architecture

A high level Conceptual Technology Target Architectur has been defined as part of the DHS Enterprise Systems Modernization logical architecture. This conceptual target architecture, as seen in Figure 18, defines at a high leverl the future technology components and integration that is required to meet business needs as defined in the Target Operating Model. A target architecture that is aligned to the over all strategic direction of DHS will promote the sharing of information, improve data quality, enable interoperability and inform evidence based deiciosn making.

The conceptual target architecture defined for DHS incorporates the target DHS ESM business architecture (business application components), HIX business components, along with custom developed, out of the box, and re-used components/systems. Along with the business components, this target architecture consists of technical componetes required in the target state. As such, many of these components will integrated with external parties and systems through an integration layer (i.e., Enterprise Service Bus).

As illustrate in the architecture in Figure 18, it is assumed that clients, providers and counties will gain access to DHS information through a client facing portal. Access points will also include mobile and kiosk nodes. If not already developed, DHS should consider defining and deploying a portal strategy aligned with DHS Strategic direction to ensure that DHS clients are able to access the the most relevant and valuable information in a user friendly, intuitive and timely manner. An effective portal strategy is targeted at providing a connected and coherent single point of access to clients, providers, and counties allowing them to access information to meet their needs. An enterprise portal strategy will effectively plan and implement a consdolidated mechanism of information access, business function management and colloabration. All of this should be targeted at the unique needs of the various client groups. Ultimately, this will results in user productivity, client satisfaction and over all DHS operational effectiveness.

The conceptual target architecture also illustrates the need for an integration layer. As per industry standars and best practices, it is recommended that DHS implement an Enterprise Service Bus (ESB) based on Service Oriented Architecture (SOA). Leveraging this concept means that application business components which are considered services for clients or client applications to access through services interfaces independent of the implementation of the application. SOA introduces the concept of web services performing different functions that may be called upon only when needed (i.e., request/reply design). Leveraging SOA principals will ultimately enable the future modernization of infrastructure, reduce over all cost, and support business agility.



#### Figure 18: Target Architecture (Conceptual)



#### 5.3.1 Technology Nodes

The technology architecture describes how application components and databases are deployed onto technology nodes. These nodes will be implemented on hardware and software that provide the functionality described in the application architecture.

The nodes that need to be recognized in the technology architecture are depicted in Figure 20: Network View.

#### 5.3.2 Deployment Model

The deployment model describes how components are deployed onto technology nodes.

The diagram below focuses on statewide nodes, which will house the vast majority of application and data servers needed to support common statewide DHS systems. These nodes have been arranged into zones which define logical boundaries. These logical boundaries are informed by issues like security, authority over design, and performance requirements.

The conceptual technology architecture as depicted is intended to be implemented in a virtualized environment. Each zone will be implemented as one or more virtual servers, organized into as many physical servers as is



required to support the processing demands of that zone within each node. Specification of virtual servers will need to be completed once specific product components are mapped to the logical application components depicted, and more detailed design of the component interrelationships is completed. This is work that will be completed during the detailed design initiatives to be included in the roadmap. The roadmap will include preliminary estimates of the server capacity required to support the deployment model.





Regional, County and Service Delivery Locations

The zones are color coded to represent different levels of trust. The highest level of trust is maintained in the tightly managed data centre environment. The lowest level of trust is in the external zone in which DHS has very little control.

This technology architecture includes the following zones:

**External Zone** is used with untrusted devices used by external clients to access public services via the public internet. DHS has little or no control over these nodes which means that it has limited ability to enforce security practices or software standardization. It is also used with state or county issued devices used remotely to provide access to the other zones via the public internet.

Internal Zone is defined for users on the DHS internal network.

Client Alternate Access zone supports access by clients through controlled platforms like IVR and kiosks.

Extranet Zone supports access by external systems owned by trusted partners.

Demilitarized Zone brokers access to resources managed in the secure zones.

**Business Application Zone** has servers which host application resources used in core business functions and management. These servers are critical to business functions and manage key business applications.



**Support Application Zone** has servers which host components that support business functions. These include nodes that support common business components, technical support components and communications interface components.

**Business Intelligence Zone** supports analytics and data management components. This zone has been defined distinctly as analytics and reporting have a performance and resource utilization pattern that differs significantly from transactional systems.

Data Zone supports databases and data access.

The inventory of nodes, combined with demand and capacity analysis, will determine the quantity and characteristics of physical hardware including servers and appliances. With this information cost estimates can be derived for software and hardware.

#### 5.3.3 Network View

Since the state will require services to be delivered in a variety of locations, it will be necessary to develop solutions that work across a wide area network. It is assumed that, for the most part, the network in place will be sufficient to support new DHS systems.

The logical diagram below describes how systems will be accessed across the state. It should be understood that this is not a physical network diagram and that redundant connections would be a feature required to maintain appropriate levels of service.







Systems will be hosted in a data center managed centrally by MN.IT Services to provide the appropriate management needed for cost effective management and systems resiliency.

Systems will be backed up to support disaster recovery. In the event of a disaster, systems will be hosted at a disaster recovery site.

Client facing resources will be made available over the internet. It is expected that this method of access will become very important so it is important to maintain consistent quality of service.

External partners like providers and the federal government will access state resources through an extranet connection. When hearings are located outside DHS offices, hearing support will be provided through the extranet as well.

Service delivery will occur in regional offices and at county or tribe service delivery locations. These users will access resources through a private wide area network.

#### 5.3.4 Integration Model

DHS requires the ability to manage business processes and data across system and organizational boundaries. This integrated approach to business requires an integrated approach to information systems. The following diagram illustrates this approach and provides a notional view of the architecture. The approach is intended to



be congruent with DHS's long term vision and Service Oriented Architecture (SOA) concepts, intended to support maintainability, agility, reuse of components, and use of commercially available technology.

Figure 21: Integration View



In this example, a number of key features of the approach to integrating business functionality can be seen:

- Components may be bundled within an integrated system which reduces the need for integration. E.g., Service Delivery would be largely supported by one system.
- Components may consume or provide services and an Enterprise Service Bus (ESB) will broker service based transactions.
- Where practical, existing integrations to legacy systems will be leveraged. This may mean that the ESB will require adapters that support a number of formats (e.g., Flat Files, CMIS, FTP).
- Registry Components will be developed which use Operational Data Stores, Master Data Management technology, or Master Person Registry technology to manage key data across the enterprise.
- Workflow processing supports business process integration, reducing the need for data integration.
- Rules processing supports externalization and centralization of business rules which reduces the need for information to be transmitted from system to system in complex business processes.



• Business intelligence and analytics, supported by an enterprise data warehouse, allows a cross-organization view of business processes to be created by aggregation of data.

One of the key steps in mobilizing Enterprise Systems Modernization will be the development of governance to manage the transformation. Within the scope of the overall governance model is integration governance, which provides standards and decision making mechanisms on system integrations and the use of integration methods. Analysis in each architectural domain will provide the necessary insight into the benefits and tradeoffs associated with key integration decisions. As integration can drive enterprise level complexity, it is important that these decisions be made pragmatically with a clear determination of business value, both near term and long term.

Integration will be a key enabler during the interim period between the current state and the desired future state. Systems identified for replacement will need to coexist with new systems and information. As business processes require the flow of information, temporary interfaces may need to be created which support interoperability in the interim state. Likewise, data migration requirements may be different from future-state integration requirements and may be addressed through temporary interfaces and integrations. The roadmap will need to account for these possibilities and the additional temporary complexity that it creates.



# 6 Using and Maintaining the DHS Enterprise Architecture

The Enterprise Architecture described in this document is a very preliminary, high level architecture defined to support and substantiate the Implementation Roadmap and Cost Benefit Analysis developed for planning purposes. It represents preliminary high level design decisions, particularly about the scope of major components of the architecture in all of the architectural domains described. These serve as planning assumptions, around which KPMG has made estimating assumptions in order to develop the high level roadmap, and resource, work effort, and cost estimates.

The architecture is also a valuable asset that will continue to evolve as more detailed design and implementation work is completed in subsequent projects. As these projects proceed, more specific and detailed design decisions will be made and some of the assumptions depicted in this architecture will change. This is partly a natural result of doing the more detailed analysis and design work that is required, and partly a result of the fact that the business itself will change due to new or changing client and environmental needs, shifts in roles and responsibilities, funding priority, staffing, operational priorities, program, policy, and other external changes.

It is therefore strongly recommended that this architecture be elaborated and maintained as a part of the implementation of the roadmap initiatives, and KPMG has accordingly included estimates of the work necessary to do so. KPMG also recommends that it be documented in a repository tool to make it easier maintain the many artifacts and relationships incorporated into the architecture. This is key to helping ensure the ongoing integrity of the architecture and design.



# **Glossary of Acronyms**

ACF	Administration for Children and Families (an agency of HHS)
CMS	Centers for Medicare and Medicaid Services (an agency of HHS)
CRUD	Create-Read-Update-Delete. Descriptions of interactions with data by either a business process or user.
DHS	Minnesota Department of Human Services
ERA	Exchange Reference Architecture (published by CMS)
ESM	Enterprise Systems Modernization planning project
HHS	US Department of Health and Human Services
ніх	Health Insurance Exchange
KERA	KPMG Enterprise Reference Architecture for Health and Human Services
MITA	Medicaid Information Technology Architecture (published by CMS)
MMIS	Medicaid Management Information System
NHSIA	National Human Services Interoperability Architecture (published by ACF)
PPACA	Patient Protection and Affordable Care Act (Public Law 111-148)
TOGAF	The Open Group Architecture Framework



Logical Architecture Report

# Appendices



# **Appendix A: Documentation Reviewed**

KPMG reviewed the following documentation while preparing this report:

#### **Federal Guidance**

File Name	File Type
CMS Enhanced Funding Requirements: Seven Standards and Conditions	PDF
SMD-1-23-12 (Letter from CMS to the States discussing 90/10 funding)	PDF
Your essential Interoperability Toolkit: An ACF/HHS Resource Guide	PDF
NHSIA Overview Viewpoint Description	PDF
NHSIA Business Viewpoint Description	PDF
NHSIA Systems Viewpoint Description	PDF
NHSIA Information Viewpoint Description	PDF

#### State of Minnesota Guidance

File Name	File Type
Application list from AIS	Excel
Concerns-Issues from MAFAS 2012	Word
Copy of all MFP LTSS Services	Excel
Demo Project Report Draft 09 08 11	Word
DW Action Plan Feb 2012 – updates to Shirley 05 09 12	Word
Health Insurance Exchange Technology Stack	Word
http://mn.gov/dhs/	Website
MAXIS	PDF
MEC	PDF
Path Operations for DW Migration to Oracle	Word
PRISM	PDF
SMI	PDF
SSIS	PDF
State Operated Services Business Functions	Word
Strategies for making the DHS Data Warehouse More Accessible 05 09 12	Word
When to use the dwh vs. the system source	Word



# Appendix B1: DHS Target Operating Model Details

## **Functional Model Spreadsheet Contents and Layout**

#### Tab 1: Business Function Requirements Model

The Business Function Requirements Model contains business functions and processes gathered based on guidance from NHSIA and MITA and expanded and refined to fit Minnesota Department of Human Services based on input from DHS during workshops held from 9/26-9/28 and 11/6 and 11/8.

Column A indicates the Functional Level within the functional hierarchy for each row.

Columns B through F display the functional breakdown of DHS operations from highest level (Business Context) to the most detailed level (Business Process). Each lower level function represents a sub-function within the higher level function above it. So, Business Areas (Level 1) are understood to be the main sub-functions within each Context Level component, Business Function Groups (Level 2) are the main sub-functions within each Business Area (Level 1) component, and so on.

Column G is a unique ID for each Function and Process in the hierarchy.

Column H through J indicate the mapping to federal standards.

Column K indicates whether or not the Function or Process is a new Minnesota function.

Column L provides a description of the function or process described in that particular row.

Column M "Additional Considerations" lists any additional or special considerations gathered during workshops.

Column S identifies functions applicable to MSOP/SOS. For the most part, these have been segregated at the context level.

Column T identifies functions applicable to the Local level (typically Counties or Tribes). For the most part, these have been segregated at the context level.

Column U identifies functions applicable to the program management level (state). For the most part, these have been segregated at the context level.

Column X lists IT (automation) requirements. These requirements were developed based on discussion during the Target Operating Model workshops and supplemented based on KPMG's work with other State-level human services agencies.

Columns AC through AP list the program groupings for DHS (taken from the NHSIA standard). KPMG has indicated whether each low level function in the hierarchy is applicable to each program area with an "X" in each applicable column.



Functions and processes currently in grey have been included for context, but are considered to be out of scope for DHS Enterprise System Modernization Planning.

#### **Tab 2: Non-Functional Requirements**

The non-functional requirements contain requirements pertaining to system performance, reliability and scalability, flexibility, usability, interoperability, recoverability, supportability, and network and communications for review by DHS.

#### **Tab 3: Supplemental Enterprise-Level Requirements**

The supplemental enterprise-level requirements contain requirements that are applicable at an Agency and Enterprise-wide level including reporting, knowledge management, and caseload requirements.

#### **Tab 4: Supplemental County Requirements**

The tab contains additional functional requirements unique to the counties, as gathered and identified during 6 visits with representative counties. Additional county specific requirements have been incorporated into the functional requirements directly.

#### Tab 5: MN DHS to NHSIA Program Map

The tab contains a map of MN DHS programs (identified in the program inventory on Tab 6) to the 14 NHSIA service domains and program groupings.

#### Tab 6: MN DHS Program Inventory

The MN DHS Program Inventory contains a listing and detail of MN DHS programs as identified through research and input from DHS and KPMG.

#### Tab 7: MN DHS Location Types

The tab contains location types pertaining to DHS business that need to be supported by network connectivity and access in the future state.



# Appendix B2: MN DHS Business Functional Model Spreadsheet

The DHS Business Functional Model and inherent requirements is provided in a separate spreadsheet as part of Appendix B2.


# Appendix C: Information Architecture Details

The information architecture describes the essential "what" of how the business operates. In the following section, diagrams document the relationships between entities in the conceptual data model, explaining how business concepts relate to each other. Descriptions follow the diagrams in a complete entity listing.

#### **Diagram: Agreements**





#### Diagram: Case (Based on NHSIA)





#### **Diagram: Communication**





#### **Diagram: Content**





#### Diagram: Contractor





#### **Diagram: Financials**











#### **Diagram: Organization**





#### **Diagram: Outreach**





#### **Diagram: Parties**





#### **Diagram: Person**





#### **Diagram: Programs and Services**





#### **Diagram: Provider**





#### **Diagram: Purchasing**





#### **Diagram: Worker**





#### **Diagram: Workflow**



The following table provides basic definitions for each entity described in the conceptual data model.

Entity	Description	Framework
Access Authorization	Whether or not an individual or system has the necessary permission to create, read, update, and/or delete information	NHSIA
Account Responsibility Center	Account responsibility center establishes which business entity manager is responsible for the account	MN-DHS
Accounts Payable	Accounts Payable are the monies the State owes to its clients and service providers	MN-DHS
Accounts Receivable	Accounts Receivable are the monies owed to the State associated with revenue	MN-DHS
Address	Information used to physically locate a place	NHSIA
Address Type	Can be of different types: Residential Work Institution Unknown	MN-DHS
Administrative Agency	A type of agency that represents local or regional agencies where services are provided. E.g. Counties, Tribes, Regional HHS (may be a number of counties with a common shared services organization), some other specialized service agencies dependent on some government level.	NHSIA





Entity	Description	Framework
Administrative Content	Content which pertains to non-case management functions	MN-DHS
Agency	Descriptive information about a human services agency	NHSIA
Agency Contact Information	Information and means to contact a person at the agency level, usually not shared with other agencies	NHSIA
Agency-specific Person Information	Information maintained about a person at the agency level, usually not shared with other agencies	MN-DHS
Agreement	Establishes a formal relationship with mutual obligations upon two or more business entities	MN-DHS
Agreement Item	A set of terms associated with an agreement	MN-DHS
Agreement Item Rule	Describes a specific obligation within an agreement	MN-DHS
Agreement Item Type	Defines the nature of an obligation in an agreement (e.g., payment terms, service level terms)	MN-DHS
Agreement Party Role	Establishes how a party is associated with an agreement	MN-DHS
Allegation	An unproven assertion that is the basis for an investigation (could include the potential abuse or neglect of vulnerable person)	MN-DHS
Allocation	A portion of available funding assigned to a program or cost pool	MN-DHS
Appeal, Hearing, Lawsuit Actions	The actions undertaken to conclude an appeal, hearing, or lawsuit	MN-DHS
Appeal, Hearing, Lawsuit Case	Content pertaining to an appeal, hearing, or lawsuit	MN-DHS
Appeal, Hearing, Lawsuit Case Roles	The nature of the relationship that a party has with an appeal, hearing, or lawsuit case	MN-DHS
Application for Services	Data and Information gathered on a client as part of an application for Agency programs and services	NHSIA
Award Document	A document that indicates the completion of a procurement process and the intent to purchase from a qualified provider	MN-DHS
Bill	A request for payment	MN-DHS
Block Grant	Federal funding given to states for discretionary use towards the delivery of social services	MN-DHS
Business Rule	An automated configuration that describes the business logic required to make a decision	MN-DHS
Case Assessment	Assessment of a client's case	NHSIA
Case Attachment	Document, photo, or other item that is scanned or imported to provide an electronic addition to a record for a case	NHSIA
Case Content	Content which pertains to a specific case	MN-DHS
Case Entry	The smallest unit of information entered on a case record	NHSIA
Case Information Access History	A record and details of case access and disclosure	MN-DHS



Entity	Description	Framework
Case Load	Defines the amount and inherent characteristics of cases assigned to a worker	MN-DHS
Case Outcome	A case outcome is the result of service delivery to a person	MN-DHS
Case Person	A generic term for all or part of the "case person"-related information (e.g., case identifier, person identifier, case member status, client group head flag, dates into and out of case, relationship information)	NHSIA
Case Person Consent	Records a person's consent to receive a service	MN-DHS
Case Person Role	Case Person Role establishes the nature of the association between a person and a case	MN-DHS
Case Plan	Plan developed by worker to address client's needs; includes service recommendations	NHSIA
Case Portfolio	Grouping of multiple Case Records aggregated to reflect a client's service history and status. Includes both active and inactive Case Records. A Case Portfolio is an electronic accumulation of case records over a client's lifetime.	NHSIA
Case Record	The information collected about a case	NHSIA
Case Service Eligibility	Case Service Eligibility is the determination that a client is eligible to receive a service	MN-DHS
Case Service Plan	A set of activities or steps supporting the achievement of a goal (e.g., return to work, child protection, self-sufficiency)	MN-DHS
Confidentiality Privacy Authorization	Permission to share specified information related to the signer of the authorization with designated agencies, jurisdictions, systems, and/or persons	NHSIA
Contact Information Type	A classifier which describes the type of information which can be used to contact a person or organization (e.g., address, email, fax number, phone number)	MN-DHS
Content	Unstructured information used or produced by a business process, which could include video, scanned images, electronic forms, photographs, and other formats.	MN-DHS
Contractor	A party with whom the State has a contractual relationship	MN-DHS
Contractor Case Assignment	Establishes the relationship between a contractor and a case	MN-DHS
Contractor Credential	An externally validated confirmation that a contractor can provide a service (e.g., a professional certification)	MN-DHS
Contractor Performance	Describes the effectiveness and efficiency of a contractor	MN-DHS
Contractor Services	A list of services that a contractor is allowed and eligible to perform	MN-DHS
Dashboard	A collection of predefined measures that are used to monitor a business operation	MN-DHS
Eligibility Appeal Decision	The determination of eligibility based on the evidence presented during the course of an appeal, hearing, or lawsuit	MN-DHS



Entity	Description	Framework
Email	An electronic mail address that can be used to contact a person or entity	NHSIA
Emergency Contact	A person who can be contacted in the event of an emergency associated with another person	NHSIA
Employer	An organization for whom a person works and receives compensation	MN-DHS
Employment History	Where person is employed, employment history	NHSIA
Federal Agency	A type of government agency that represents Federal-level entities; e.g. HHS	NHSIA
Financial Transaction	An agreement that exchanges an asset for payment	MN-DHS
Garnishment	Funds received directly from a person's income stream	MN-DHS
GL Account	A subledger maintained within the organization's general ledger, which records related financial transactions	
Grievance	Complaint about a decision. Initiates a request for appeal.	NHSIA
Household / Family / Relationships	Information about family composition and other relationships	NHSIA
Housing	Information about a client's housing arrangement	NHSIA
Individual	An individual is a person	MN-DHS
Individual Organization Association	Defines the relationship between an individual and an organization	MN-DHS
Individual Organization Association Type	Classifies the types of relationships between individuals and organizations (e.g., employee, client)	MN-DHS
Investigation	A set of activities intended to identify the underlying facts in a case (especially used to resolve or verify a suspicious scenario)	NHSIA
Invoice	A document issued by a service provider to the State which indicates the quantity of services or material purchased and the price	MN-DHS
Knowledge Content	Actionable information that supports the operation of an organization	MN-DHS
Managing Agency	A type of government agency that represents State-level agencies; e.g. MN DHS, NY HDHS, etc.	NHSIA
Metadata	Descriptions of data or content that facilitates search and use	MN-DHS
МОА	Memorandum of agreement. Written approval/authority to do something (in NHSIA context, usually share information)	NHSIA
Notification / Communication	An item conveying unstructured information from one party to another	MN-DHS
Organization	A super type that generalizes all the types of organizations of interest to HHS	NHSIA
Organization Contact Information	Contact information for an organization	NHSIA



Entity	Description	Framework
Organization Description	Describes the purpose and characteristics of an organization.	MN-DHS
Organization Facility	Describes the physical location of an organization and its physical characteristics	MN-DHS
Organization Membership	The affiliations/members of an organization	MN-DHS
Organization Relationship	The relationships between organizations	MN-DHS
Outreach Message	A targeted message providing general information regarding a service or program to a specific population group	MN-DHS
Outreach Record	Record of content for a broad outreach effort	NHSIA
Partner	Organization funded by the State or the local government that provides services or supports the provision of services.	MN-DHS
Party	A Person or Organization of interest. This is a generic representation of the parties involved in the provision of services, clients, related persons, suppliers and others.	MN-DHS
Party Contact Information	How to reach a party e.g., mailing address, email address, phone numbers, via third party)	NHSIA
Payment Adjustment	A payment adjustment is a transaction that alters the original effective payment amount of a related transaction	MN-DHS
Payment Instruction	A payment instruction establishes payment details for a transaction	MN-DHS
Payment Receipt	Supporting documentation for reimbursable expenses indicating that payment has been made	MN-DHS
Performance Indicators	Specific piece of information about client, services, etc. considered when evaluating program outcomes	NHSIA
Person	Clients and others related to clients	NHSIA
Person Attachment	A record that has been submitted to be associated with a person	MN-DHS
Person Attachment	Document, photo, or other item that is scanned or imported to provide an electronic addition to a record	NHSIA
Person Characteristic Type	A classifier used to describe the information that might be gathered about a person (e.g., sex, education level)	MN-DHS
Person Characteristics	Information gathered that describes a person	NHSIA
Person Demographics	Basic information that characterizes the person (e.g., date of birth, sex, race, cultural background, mother's maiden name) and is not subject to frequent change. Likely to be used in matching algorithms. (Note: Person Identifier and Name are separate terms.)	NHSIA
Person Education	History and status of a person's schooling, formal education, and training	NHSIA
Person Finances	Information related to a person's finances	NHSIA
Person Health Status	Information pertaining to the health of a person including a health history or profile	NHSIA



Entity	Description	Framework
Person Identifier Type	A classifier describing the type of information that might be used to identify a person (e.g., Name, Social Security Number, Birth date)	MN-DHS
Person Identifiers	Any of the identifiers that apply to a person (e.g., driver license, passport, SSN).	NHSIA
Person Legal/Court History	Any legal action or legal certification associated with a person	NHSIA
Person Name	A name that identifies or describes a person (includes legal name, married name, known as name)	NHSIA
Person Need	A person's need describes their requirements for services	MN-DHS
Person Relationship Type	A classifier that describes the different kinds of relationships that a person might have which could be relevant to provision of services or programs (e.g., child. parent, friend, sibling, member of household, emergency contact)	MN-DHS
Person Service Enrollment	List of services the client is enrolled in. This is updated in the enrollment/disenrollment process	MN-DHS
Program	Descriptive information about a human services program	NHSIA
Program Risk	Describes issues that have the potential for negative impact on delivery of programs	MN-DHS
Program Rule	A rule which establishes how a program can be delivered	NHSIA
Program Service Relationship	Describes the services associated with a program (e.g., a program may include a training subsidy, child care, and counseling)	MN-DHS
Program Status	Describes the availability of a program	MN-DHS
Program Strategy	Defines the objectives, operating environment, and plan for delivering and managing a program	MN-DHS
Program/Agency Staff	The people that work for a program/agency. Typically these are government employees	NHSIA
Program/Agency Staff Contact Information	How to reach a program or agency (e.g., mailing address, URL, email address, phone numbers)	NHSIA
Provider	Organization or person that administers services	MN-DHS
Provider Case Assignment	Establishes the relationship between a provider and a delivery case	MN-DHS
Reference Code	Data that is standardized in a system or across systems that is used in business processes or reporting	MN-DHS
Referral	Referring client to a service provider in order to receive services; may be generated by caseworker or service provider	NHSIA
Remittance	An executed payment	MN-DHS
Request Document	A document that identifies the purchasing requirements of an organization that is issued to suppliers	MN-DHS



Entity	Description	
Request Response	A document prepared by a supplier that describes how their product offering meets the requirements of an organization	MN-DHS
Rules/Policies/Procedures	Guidance that an agency provides to workers to be considered in decisions, determinations, plans, etc. This guidance reflects relevant laws and regulations and can feed eligibility criteria	NHSIA
Service	The service provided to the person requesting it to satisfy a given program need	NHSIA
Service Delivery Event	A service delivery event is an intervention which supports a service	MN-DHS
Service Eligibility Rule	A criteria that establishes whether a person may be offered and is eligible for a service	MN-DHS
Service Grievance Action	The actions undertaken to resolve a grievance	MN-DHS
Service Organizational Unit	A component of service delivery organization (e.g., a team)	MN-DHS
Service Performance Measure	A measurable indicator which relates to the effectiveness or efficiency of service delivery	MN-DHS
Service Provider	Descriptive information about a human services provider	NHSIA
Service Provider Contact Information	How to reach a service provider (e.g., mailing address, URL, email address, phone numbers)	NHSIA
Service Provider	Authoritative documentation that states a provider is qualified to deliver	NHSIA
Service Provider Facility	a given service Describes the physical location in which service provisions takes place (e.g., Offices, Clinic, Contact Center)	MN-DHS
Service Provider Performance	Describes the effectiveness and efficiency of a service provider	MN-DHS
Service Rate	A scheduled amount to be paid for service delivery	MN-DHS
Service Status	Describes the availability of a service	MN-DHS
Service Waiting List	A list detailing the persons who have been deemed eligible for a service but have not yet received it (typically, seen in oversubscribed services like affordable housing or child care or services with funding dependencies like Medicaid Waiver services)	MN-DHS
Source System	Identifier for an information system to be used as an authoritative source of information (e.g., about a person's identity, a service provider's credentials, a person's finances, etc.)	NHSIA
Sponsorship	Monies that are passed from the State to the county or tribe to support service delivery in the community	MN-DHS
Standard Report	A report that is predefined to support the activities or monitoring of a business process	MN-DHS
Street	An element of a physical address	NHSIA
Supplier	A party that provides services or materials	MN-DHS
Survey Information	Information gathered from any group of parties using a formal survey instrument	MN-DHS



Entity	Description	Framework
Telephone Contact	A telephone number that can be used to reach a person	NHSIA
Training Event	An occasion in which information is distributed or skills are learned by people	MN-DHS
Worker	A person employed by an organization that participates in case management or service delivery	NHSIA
Worker Case Assignment	A relationship established between a case worker and a case	MN-DHS
Worker Contact	Contact information for a worker. Inherited from workers role as a	NHSIA
Information	person. See Person Contact Information	
Worker Organization Assignment	Describes the role and organization unit to which a worker has been allocated	MN-DHS
Worker Performance	Describes the efficiency and effectiveness of a worker	MN-DHS
Worker Skill & Credential	Skills are the things that a worker knows how to do and credentials are accredited skill sets	MN-DHS
Worker Training	Describes the education or training experience of a worker (e.g., Bachelor of Social Work or other internal and external training)	MN-DHS
Workflow	An automated configuration that defines the steps and actions required to support a business process	MN-DHS
Workflow Rule	An element in a workflow that describes decision points in a workflow	MN-DHS



# Appendix D: Application Architecture Details

The application component model has been developed by mapping the detailed functions in the target operating model against the entities of the conceptual data model. Application components are the logical groupings of functions that tend to manage and use a common set of data entities. KPMG has leveraged the application components identified in the various reference architectures (NHSIA, MITA, ERA and KERA) to accelerate the development of this Application Component Model.

This process has identified a set of business application components, which automate the support for functions in the target operating model. The diagram below illustrates the high level groupings of business application components.

The diagram also illustrates a set of technical application components. These components describe technical infrastructure that is needed to support the business application components.

## **Application Architecture**



Application architecture components fall into the following categories:

- Business Application Components that support directly support business functions, including:
  - o Program Management Components that support management of programs and services
  - Service Delivery Components that support management of services being provisioned to clients, including assessments and investigations, eligibility determination, payments, etc.
  - Business Management Components that support "back office" administrative and management of DHS operations across all functions



- Common Business Functions that provide functionality that is used in all aspects of operations including management and delivery functions
- Technical Application Components that technically enable other components and processes, including:
  - o Technical Support Components that provide technical infrastructure for services
  - Communications Interface Components that support communications and access methods between systems and stakeholders

### **Business Application Components**

As described in section 3.3, Architecture Artifacts and Traceability, leaf level business model elements were mapped to the business application components. In the following tables, these mappings have been referenced.

It should be noted that, in order to support the estimating process, only one application component was mapped to a business element. It is expected that, in some cases, lesser utilization of other components would be anticipated. This functionality will be accounted for by mapping to other business elements and with general adjustment of function point counts and estimates.



#### **Program Management**

#### **Program Operations**

Component Name	Description	Framework
Compliance	Compliance Management confirms, tracks, audits and	
Management	notifies of compliance and breach of compliance as it	
	relates to system and information access and also as it	
	relates to program and service delivery, including fraud,	
	service overuse and other non-compliance.	
	Maps to the following TOM elements: * identifies L4 mapping that needs to be verified as part of physical	



Component Name	Description	Framework
	design phase of project L3: Monitor Provider Compliance L3: Manage Provider Corrective Action Plan L3: Manage Provider Citation L3: Manage Provider Sanctions L3: Manage Coordination of Communication To External Parties of Provider Citations and Sanctions L3: Establish Compliance Incident / Investigative Case L4: Refer and Track Investigations L4: Log Anomaly / Compliance Incident Details and Actions L4: Track Caseworker Actions regarding a Compliance Incident and Anomaly L3: Manage Compliance Incident Information L4: Track County Incidents L4: Track Caseworker Incidents L4: Track County Incidents L4: Track County Incidents L4: Track Complete Action to Resolve Compliance Incident L3: Close Compliance Incident/Investigative Case	
Grants Management	The Grants Management component manages the applications for grants, tracking of expenditures against grants and monitors the issuance of grants. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Manage Sponsorships L3: Manage Allocations L3: Process Awards Letter L3: Create Block Grant Application L3: Perform Block Grant Reviews L3: Manage Block Grants	NHSIA
Program Financial Reporting	Program Financial Reporting reports on transactions and financial activity and translates these to the appropriate financial coding for the receiving ledger. <i>This element was added to facilitate development of</i> <i>alternative scenarios with with existing software. A</i> <i>detailed analysis and design phase will be required to</i> <i>determine how financial processing and accounting is</i> <i>distributed.</i>	
Program Reporting	Based on the information gathered in the Data Warehouse and the analytics provided through Business Intelligence, this system component generates reports required for both internal and external reporting on programs. Maps to the following TOM elements:	NHSIA



Component Name	Description	Framework
	* identifies L4 mapping that needs to be verified as part of physical	
	design phase of project	
	L3: Manage and Prepare Local Reporting Data	
	13: Operational Reports Management	
	L4: Standard Reports Management	
	L4: Ad hoc Reports management	
	L3: Manage Public Reporting	
	L3: Produce AFCARS Reports	
	L3: Design Surveillance Strategy and Method	
	L4: Conduct Surveillance	
	1.3. Identify Employee Anomaly	
	L4: Track Caseworker Override	
	L4: Manage Red Flag Reporting	
	L3: Identify Enrollment Anomalies	
	L3: Identify Utilization Anomalies	
	L3: Identify Provider Anomalies	
	L4. Manage Reu Flag Reporting	
	L4: Collect Data from Clients	
	L4: Collect Data from Providers	
	L4:Access Data on Expenditures	
	L4: Collect Additional Data for Special Studies	
	L3: Analyze and Interpret Data	
	L4: Provide and Manage Direct Access for	
	1 4: Support Data-Based Decision Making	
	L3: Reporting	
	L4: Manage COLA*	
	L4: Generate Adhoc Reports	
	L4: Generate Customized Reports	
	L4: Manage Updates of Dashboard	
	L4: Include Generalized Cost Information	
	1 4. Develop Scenarios for Policy Change	
	Planning	
	L4: Forecast Program Expenditures	
	L4: Develop Performances Measures and	
	Targets	
	L4: Align Performance Measures and Impacts between Program Areas	
Provider Certification	Some services delivered to clients require that the service	MN DHS
and Licensing	provider be certified or licensed to deliver the service.	
	This system component tracks the certifications and	
	licenses required and obtained by each service provider	
	as well as managing the certification and licensing	
	requirements, training materials, examinations, issuance	
	and revocation of certifications and licenses.	
	Maps to the following TOM elements: * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Mapage and Issue Provider Licensing	
	L3. Wanage and issue Provider Licensing L4: Communicate Provider Licensing Decision	



Component Name	Description	Framework
	L4 Process Provider Licensing Fees L3: Manage and Issue Provider Certifications L4: Communicate Provider Certification Decision L4: Manage Provider Certification Fees L4: Track Provider Training and Certifications L4: Decertify Provider L4: Recertify Provider L3: Monitoring and Oversight of Provider License/Credentials/Certifications Change	
Provider and	This component manages information about service	MN DHS
Contractor Information	providers and contractors, associates them with	
Management	authorized services, manages their quality and	
	performance and facilitates their service provisioning. It	
	also provides CRM-like functionality for service providers	
	and contractors.	
	<ul> <li>Maps to the following TOM elements:         <ul> <li>identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Determine Provider Eligibility                 <ul> <li>L4: Validate Provider Eligibility</li> <li>L4: Validate Provider Eligibility with External Parties</li> <li>L4: Process Background Studies</li> <li>L4: Map Providers to Programs and Service</li> </ul> </li> </ul> </li> <li>L3: Deactivate Provider Registration         <ul> <li>L4: Communicate Provider Deactivation Decision</li> <li>L3: Reactive Provider Registration                         <ul> <li>L4: Communicate Provider Reactivation Decision</li> <li>L3: Disenroll Provider</li> <li>L4: Communicate Provider Disenrollment</li></ul></li></ul></li></ul>	
	L3: Manage Provider Data L4: Maintain Provider Facility Information L4: Maintain Provider Staff Information	
	L3: Find Provider Information L4: Perform Provider Lookup and Surveys* L4: Inquire Provider Status	
	L3: Manage Counties as Providers	
	L3: Manage Contractor Information	
	L3: Inquire Contractor Information	
	L3: Recognize Accreditation, Credentials, and Ratings	
Quality Assurance	The Quality Assurance component enables and supports	KERA
	compliance and enforcement of federal and state quality	
	review standards as they pertain to service and program	
	delivery. The component includes the sampling and	
	surveying of quality assurance and quality control cases	



Component Name	Description	Framework
	as well as the development of corrective action plans. Informal adjustments are supported as part of the remediation process and can be used for any negative findings, based on severity, that are a result from a quality assurance review. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Manage and Monitor Client and Service Plan Outcomes L4:Process Case Reviews L4:Track Case Reviews L4:Perform Periodic State-Level Review	

## Program Oversight

Component Name	Description	Framework
Marketing and Outreach	The Marketing and Outreach component facilitates public awareness of available programs and services. It ensures that external stakeholders, including clients, providers, and vendors are aware of, and use, DHS services. It supports the outreach program by informing clients about the services and program options available to them through DHS	KERA
	<ul> <li>Maps to the following TOM elements:</li> <li>* identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Perform Population and Client Outreach</li> <li>L4: Perform Targeted Outreach based on Existing Client Enrollment in Services</li> <li>L4: Provide Broad Outreach on Program Information</li> <li>L4: Provide Outreach to Community Partners</li> <li>L4: Provide Education to Individual Clients on Program Offerings*</li> <li>L3: Perform Population and Provider Outreach</li> </ul>	
	L3: Perform Contractor Outreach L3: Manage Outreach Rules L3: Perform Outreach L3: Manage Program Information L4: Coordinate Communication of Program Information within Agency and Service Delivery Partners L4: Coordinate Communication of Program Information within Target Population	



Component Name	Description	Framework
Performance Monitoring	The Performance Monitoring system component uses the information located in the Data Warehouse and information generated by the Business Intelligence component do determine the performance of a particular service or program. Performance Monitoring tracks traditional metrics such as expenditures and also newer KPI's such as Outcome Achievement <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Develop Provider Quality Measures L3: Track Caseworker Performance L3: Respond to Federal Program Performance Audit L3: Develop Evaluation Plan L4: Assign Resources to Performance Evaluations L4: Conduct County-Specific Performance Evaluation L4: Conduct Federal-Specific Performance Evaluation L4: Conduct Provider Performance Evaluations L3: Manage Outcome Measurement L4: Develop Data Collection and Reporting Policy L4: Perform Operational Processes Performance T4: Crack Outcome Against Performance Targets L4: Analyze Response Timelines of Case Management Cycle L3: Develop Performance Data Collected Via Other Processes L3: Develop Performance Measurement Reporting Requirements L3: Develop Federal and State Reports	MN DHS
Policy and Oversight Management	The Policy & Oversight component supports overall compliance and policy management including the maintenance and management of policies and performance measures including Key Performance Indicators (KPIs) as developed by the State of Minnesota in support of DHS's goals and objectives in serving its constituents. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Manage Program Policy L4: Track Program Activity for Funding Purposes* L3: Policy Management	MITA KERA



Component Name	Description	Framework
	<ul> <li>L4: Provide and Manage Access to Policies</li> <li>L4: Manage and Track Changes to Policies</li> <li>L4: Support System Changes based on</li> <li>Legislative and Program Policy Changes</li> <li>L3: Manage Communication of Policy</li> <li>L4: Provide Policy Interpretation Behind a</li> <li>Decision</li> <li>L3: Manage Improvement of Policy</li> <li>L4: Develop Scenarios Based on Policy</li> <li>Changes*</li> <li>L4: Track Policy Changes</li> <li>L3: Manage Privacy and Security Policies</li> </ul>	
Program Planning and	The Program Planning & Management system component	KERA
Management	manages the planning, creation and operation of a	
	program. It includes managing program outcomes,	
	budgets, service offerings and relationships with service	
	providers.	
	<ul> <li>Maps to the following TOM elements:</li> <li>* identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Manage Provider Specific Performance</li> <li>L3: Manage Relationships Between Programs</li> <li>L3: Develop Agency Goals and Objectives</li> <li>L3: Maintain Program Policy</li> <li>L3: Maintain State Plan</li> <li>L3: Manage Health Plan Information</li> <li>L3: Manage Health Benefit Information</li> </ul>	



#### **Service Delivery**



#### **Client Management**

Component Name	Description	Framework
Client Information	The Client Information Management component maintains	MN DHS
Management	Maps to the following TOM elements:         * identifies L4 mapping that needs to be verified as part of physical design phase of project         L3: Establish Client Account         L4: Client Identification         L4: Receive Client Consent         L4: Track Client Consent and Information Released         L4: Track Violations of Disclosure of Information*         L4: Find Client Information*         L4: Deduplicate Client         L4: Establish Shared Client Information*         L4: Register Client         L3: Stablish Shared Client         L4: Register Client         L4: Register Client	
	L4: Verify Client Information L4: Update Client Information L4: Assign Person Role L4: Resolve Data Discrepancies L4: Assign and Track Person Relationships L3: Establish Agency Client Information L4: Assign Workgroups L4: Record Agency Contacts	



Component Name	Description	Framework
Client Transfer	The Client Transfer component facilitates the transfer of a	MN DHS
	client from one jurisdiction to another jurisdiction.	
	<i>Maps to the following TOM elements:</i> * identifies L4 mapping that needs to be verified as part of physical design phase of project	
	L3: Manage Transfer of Case	
	L3: Process Client Referrals to Community Partners/	
	Agencies	

## **Eligibility and Enrollment**

Component Name	Description	Framework
Appeals Management	<ul> <li>When a client is denied access to a program or services or is unsatisfied with the level of service, they may appeal the decision. This component manages and tracks the appeals process to ensure that the appropriate materials are available and that timelines are met.</li> <li>Maps to the following TOM elements: <ul> <li>* identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Manage Client Appeal, Hearing, and Lawsuit L4: Determine Appeal, Hearing, and Lawsuit Participation.</li> <li>L4: Process Appeal Negotiation and Facilitation L4: Track Services During Appeal, Hearing, and Lawsuit</li> <li>L4: Document and Track Appeal, Hearing, and/or Lawsuit Circumstances</li> <li>L4: Process Communication and Coordination between Parties Involved in Appeal, Hearing, and/or Lawsuit</li> <li>L4: Process Interaction with Other Agencies Involved in Appeal, Hearing, or Lawsuit</li> <li>L4: Process Appeal of Eligibility Determination L4: Record Ruling/Finding of Appeal</li> </ul> </li> </ul>	MN DHS
Eligibility Determination	Using interview tools, the Eligibility Determination application collects basic information required to determine client eligibility for particular human services or programs. Some data may be initially populated from existing databases or smart cards (e.g., electronic health record, personal health record or driver's license). The application	NHSIA



Component Name	Description	Framework
	<ul> <li>is a rule-based process that performs an automated assessment about eligibility. The application presents the results and solicits approval. Once approved, the application triggers follow-on processes.</li> <li>Maps to the following TOM elements: <ul> <li>* identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Manage Eligibility Determination</li> <li>L4: Determine Presumptive Eligibility for Screening Purposes*</li> <li>L4: Determine Eligibility Redetermination based on Outcome Measurement</li> <li>L4: Process Status Inquiry of Eligibility Determination</li> <li>L4: Communicate Eligibility Determination</li> </ul> </li> </ul>	
Enrollment Management	The Enrollment Management application would typically be triggered by either the Eligibility Determination or Needs Assessment applications. The Enrollment Management application checks for potential fraud before enrolling the client in a program. This application completes the enrollment or disenrollment process, notifies stakeholders, and updates program-related data for reporting purposes. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Assign Provider for Eligible Service(s) L3: Enroll Client L3: Disenroll Client L3: Inquire Client Enrollment	NHSIA
Needs Assessment	Using interview tools, the Needs Assessment application collects detailed information about the client and their situation. The application creates the initial case record(s) and case person record(s) for every person who is a member of the case. Using decision support tools, this application assesses the client's needs and makes initial recommendations about what kinds of services might be appropriate to meet those needs.	NHSIA



Component Name	Description	Framework
	<ul> <li>Maps to the following TOM elements:         <ul> <li>identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Preliminary Identification of Client Needs</li> <li>L4: Determine Client Needs Response Timeline</li> <li>L3: Manage Client Triage</li> <li>L3: Process Referrals</li> <li>L3: Manage Client Intake</li> <li>L4: Process Application</li> </ul> </li> </ul>	
	L4: Process Voluntary Eligibility Intake L4: Process Mandated Eligibility Intake L4: Process Involuntary Eligibility Intake L3: Screening and Assessment L4: Apply Structured Decision-Making to Vulnerable Adults* L4: Determine Guardianship Need L4: Perform Pre-Petition Screening L4: Perform Diagnostic Assessment L4: Determine Level of Risk L4: Determine Level of Need L4: Determine Services Required	

### Service Management

Component Name	Description	Framework
Case Management	The Case Management component supports overall service	KERA
	delivery to DHS clients and business processes as related to case management. This application collects, organizes, summarizes, evaluates, and manages ongoing case	MN DHS
	plan make updates to case information and manage case	
	records. Workers use this application to arrange for	
	investigations and record results. Supervisors use the	
	application to review and approve the case plan.	
	Maps to the following TOM elements: * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Establish Case L4: Link Caseworkers Involved with Client/Persons L4: Determine Case Affiliation L4: Determine Case Accountabilities L4: Determine Program Affiliation L3: Find Case Information L3: Manage Case Information	
	L3: Service Arrangement, Referral, Placement L4: Determine and Assign Service Delivery Partner	
	L3: Manage Referrals	



Component Name	Description	Framework
	<ul> <li>L4: Process Referral (Eligibility compliance referrals) *</li> <li>L4: Process General Referrals (non-Eligibility)</li> <li>L4: Track Compliance for Mandatory Referrals</li> <li>L4: Track Referrals</li> <li>L4: Update and Maintain Case based on Case Reviews</li> <li>L3:Cross-Agency Case Coordination</li> <li>L4: Manage Coordination between Caseworkers involved with Client</li> <li>L4: Update and Review Client Information Shared Between Agencies and Partners</li> <li>L4: Manage Notifications for Coordination of Changes and Updates to Client Data</li> <li>L4: Manage Coordination of Client Program and Service Transitions</li> <li>L3: Close Case</li> <li>L4: Process Termination of Person(s)</li> <li>L4: Process Burial Activities in Event of Client Death</li> <li>L4: Process Allowances and Disallowances Process</li> </ul>	
Caseload	Caseload Management supports the allocations of cases to	MN DHS
Management	case managers, making sure that the workload is allocated	
	optimally according to assignment rules.	
	Maps to the following TOM elements:         * identifies L4 mapping that needs to be verified as part of physical design phase of project         L3:Manage Case Workload         L4: Manage Caseworker Waiting List*         L4: Manage Caseworker Waiting List*         L4: Manage Waiting List for Assessment and Eligibility Determination         L4: Track Caseworker Ratios         L4: Toport Supervisory Functions         L4: Generate Caseworker Alerts and Ticklers*         L4: Forecast Cyclical Workloads         L3: Approve Service         L4: Authorize Service         L4: Authorize Placement         L4: Authorize Equipment         L3: Approve Service Plan	
Claims Management	The Claims Management component enables claims	ERA
	processing. The component contains functionality that	
	supports the business processes for calculating claim and	


Component Name	Description	Framework
	spend down amounts as well as the management of overissuance and underissuance claims and benefit recovery. It manages the electronic attachment and processing of claims and supporting documentation. <i>No TOM elements mapped as Claims Management is out</i> <i>of scope</i>	KERA
Clinical Management	The clinical management component supports direct service delivery. <i>This component is out of scope</i>	
Complaint Management	<ul> <li>The Complaint Management system function supports</li> <li>Client Management and logs all complaints against a program, service, eligibility determination, service provider, etc. It tracks all information regarding the complaint, including hand-off to an appeal or legal process.</li> <li><i>Maps to the following TOM elements:</i> <ul> <li><i>'identifies L4 mapping that needs to be verified as part of physical design phase of project</i></li> <li>L3: Conduct Investigation</li> <li>L3: Manage Client (Complaint) Grievance</li> <li>L4: Record Complaints (Grievances)</li> <li>L4: Track Responses and Actions to Complaints (Grievances)</li> <li>L4: Process Communication and Coordination between Parties Involved in Complaint (Grievance)</li> <li>L4: Process Interaction with Other Agencies Involved in Complaint, Grievance, and Appeals</li> <li>L4: Respond to Provider Complaints, Grievances, and Appeals</li> <li>L4: Track Follow Up on Providers</li> <li>L3: Manage Contractor Grievance and Appeal</li> <li>L4: Respond to Provider S</li> <li>L3: Manage Contractor Grievance and Appeal</li> <li>L4: Track Follow Up on Providers</li> <li>L3: Manage Provider Complaints, Grievances, and Appeals</li> <li>L4: Track Provider Complaints, Grievances, and Appeals</li> <li>L4: Track Follow Up on Providers</li> <li>L3: Manage Contractor Grievance and Appeal</li> <li>L3: Manage Provider Complaints, Grievances, and Appeals</li> <li>L4: Track Follow Up on Providers</li> </ul></li></ul>	MN DHS
Funds Allocation	Funds Allocation provides a facility for determining the distribution of a collected fund across various accounts	



Component Name	Description	Framework
	where there is a complex distribution scenario.	
	This element was added to facilitate development of alternative scenarios with existing software. A detailed analysis and design phase will be required to determine how financial processing and accounting is distributed.	
Payment Calculation	The Payment Calculation component determines payments calculated with complex rules and algorithms.	
	This element was added to facilitate development of alternative scenarios with existing software. A detailed analysis and design phase will be required to determine how financial processing and accounting is distributed.	
Payments, Collections	The Payments, Collections and Recovery Management	MN DHS
& Recovery	component manages all aspects of making payments,	
Management	collecting remittances and recovering overpaid funds.	
	<ul> <li>Maps to the following TOM elements: <ul> <li>identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Manage Electronic Billing Capabilities</li> <li>L3: Manage Electronic Notices</li> <li>L3: Manage Client Payments <ul> <li>L4: Process Direct Deposits/EBT</li> <li>L4: Process Payments to Vendors on behalf of the Client</li> <li>L4: Process Redirected Payments to Other</li> <li>Programs</li> <li>L4: Process Garnishments</li> <li>L4: Collect Client Co-Pay</li> </ul> </li> <li>L3: Generate Remittance Advice</li> <li>L3: Inquire Payment Status</li> <li>L4: Inquire EBT Status</li> <li>L3: Generate Annual Benefits Notice</li> <li>L3: Process Provider Payments to External Parties</li> <li>L4: Process Provider Payments to External Parties</li> <li>L4: Process Provider Payments to External Parties</li> <li>L4: Register Employer/Payor-of-Funds</li> <li>L4: Manage Employer/Payor-of-Funds Support</li> <li>L4: Manage Employer/Payor-Of-Funds Support</li> <li>L4: Manage Employer/Payor-Of-Funds Support</li> <li>L4: Manage Employer/Payor-Of-Funds Support</li> <li>L4: Manage Payments to Child Care Providers</li> <li>L3: Stablish Overpayment Billing Process</li> </ul> </li> </ul>	



Component Name	Description	Framework
	L4: Track Notification Response L3: Manage Recoupments L4: Process Liens and Recovery Actions L3: Transfer Liability L3: Track Overpayment Actions and Activities L3: Determine and Manage Actions based on Failure to Comply with Overpayment L3: Manage Benefit Reduction or Recovery L3: Report on Overpayment Claims L3: Perform Recovery Actions As Result of Compliance Incident Resolution L3: Modify Policy and Procedure	
Service Planning and Monitoring	Based on the case plan, caseworkers use this application to accomplish detailed service planning, coordination, referral, and placement for a client in a case. Rule-based processes make initial service provider recommendations. The caseworker can choose specific services and refer clients to or place clients with service providers. Rules also identify standard performance indicators associated with the planned services. The application also provides scheduling, notification, and collaboration capabilities to coordinate services. The application tracks the status of the referral, allows the worker or provider to record performance indicators, and monitors progress against planned milestones. Caseworkers will use this application in conjunction with the Case Management application; some jurisdictions may integrate the two applications. (NHSIA) <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Develop Client-Based Service Plan (Goals, Methods and Outcomes) L4: Establish Budget L4: Determine Treatment Plan L4: Determine Strengths and Needs for Self- Sufficiency L4: Develop Child Support Action Plan L4: Develop Child Support Action Plan L4: Develop Child Support Action Plan L4: Develop Child Placement Plan (OHPP) L4: Develop Coordinate Services Plan L4: Develop Coordinate Services Support Plan L4: Develop Coordinate Services Support Plan L4: Develop Coordinated Services Support Plan L4: Develop Money Follows the Person Plan L4: Develop Money Follows the Person Plan L4: Develop Coordinated Services Support Plan L4: Develop Coordinated Services Support Plan L4: Review and Track Client Reported Changes	NHSIA



Component Name	Description	Framework
	Measurement L4: Provide Timely Reporting of Progress and Outcomes to Partners L4: Perform Periodic State-Level Review L3: Review and Update Service Plan L3: Review and Determine Compliance with Service Plan	
Service and Funding Approval	This component manages the approval process for services delivered through service plans and for the associated funding required in order to deliver the services. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Approve Service L4: Approve Level of Service/Treatment L4: Approve Funding for Service L4: Authorize Service L4: Authorize Placement L4: Authorize Placement L4: Assign Service Delivery Payer L3: Approve Service Plan L3: Manage and Monitor Client and Service Plan Outcomes	MN DHS
Waitlist Management	This component manages This process includes the management of waitlist assignments for services per program including Medicaid waivers based upon business rules including but not limited to: tracking, notifying individual, and removal. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Manage Service/Program Waiting List L4: Manage Child Care Waiting List L4: Manage Medicaid Waiver Waiting List L4: Monitor Waiting List L4: Track Client Services While on Waiver Waiting List* L4: Manage Targeting* L4: Track Action for Client to be Taken off from Waiting List*	

#### Administration

Component Name	Description	Framework
User Administration	The System Administration component configures and manages user information in business applications.	
	Maps to the following TOM elements: * identifies L4 mapping that needs to be verified as part of physical	



design phase of project L3: Manage Caseworker Information L4: Determine and Record Caseworker Skills and Specializations L3: Manage Caseworker-Team Relationships L3: Manage Caseworker-Function Relationship L3: Manage User Access Privileges L4: Manage Client-Specific Access Restrictions L4: Manage Program-Specific Access Restrictions L4: Manage Worker-Specific Access Restrictions L4: Communicate User Access Assignments to Caseworkers L3: Manage Access to External Parties	
--	--

#### **Business Management**



#### **Corporate Services**

Component Name	Description	Framework
Business Agreement Management	The Business Agreement Management component contains functionality that supports the coordination of standards of interoperability. This component defines the exchange of information between DHS and its partners to support the sharing of information from different systems and stakeholders through defined interfaces. The exchange of information includes collaboration among state and local agencies including intrastate and interstate agencies, as well as federal agencies in support of DHS's programs and services.	KERA
	Maps to the following TOM elements:* identifies L4 mapping that needs to be verified as part of physical design phase of projectL3: Manage MOUsL4: Develop and Approve MOUsL3: Manage Professional Service Agreements	



Component Name	Description	Framework
	L4: Develop and Approve Professional Service Agreements L3: Update/Revise MOUs and Professional Service Agreements L3: Manage Agreements with External Parties L3: Establish Business Relationship L4: Establish and Maintain Privacy and Security Requirements L4: Standardize Data L4: Manage Data Sharing Agreements L4: Perform Data Quality Audits L4: Execute on Data Sharing Agreements L4: Maintain Master List of Sharing Agreements L4: Determine and Manage Relationships Between Counties and Community Partners L3: Manage Business Relationship Communication L3: Manage Business Relationship Information L3: Terminate Business Relationship Management	
Contract Management	Manages contracts with contractors and service providers and records activity relevant to the contract. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Evaluate Proposal and Award Contract L3: Manage Contracts L3: Close out Contract L3: Manage Procurement	MN DHS
Education and Training	<ul> <li>The Education &amp; Training system component supports the development and delivery of training materials as well as the examination of training recipients. Education and training may be delivered to both internal and external recipients.</li> <li><i>Maps to the following TOM elements:</i> <ul> <li><i>identifies L4 mapping that needs to be verified as part of physical design phase of project</i></li> <li><i>L3: Provide Provider Education and Training</i></li> <li><i>L3: Track Caseworker Training and Certifications</i></li> <li><i>L4: Track Caseworker Training on User Access</i></li> <li><i>L3: Share Inter-Agency Information and Training</i></li> <li><i>L3: Develop Training for External Participants and</i></li> <li><i>Community Partners</i></li> <li><i>L4: Determine Training Needs and Requirements</i></li> <li><i>L4: Design Professional Development and Training</i></li> <li><i>L4: Maintain / Update Professional Development and</i></li> <li><i>Training Curriculum</i></li> <li><i>L3: Deliver Training Events</i></li> <li><i>L3: Deliver Training Events</i></li> </ul> </li> </ul>	MN DHS



Component Name	Description	Framework
	L3: Manage Resource Libraries L3: Register Participants L3: Manage ADA Compliance L3: Manage Training Evaluations L3: Provide Certifications	

#### Finance

Component Name	Description	Framework
Accounts Payable Processing	The Accounts Payable component manages payment streams to clients and providers. <i>Note: Assume that DHS systems will interface SWIFT to do</i> <i>G/L accounting for payables and to issue and receive funds.</i>	MN DHS
Accounts Receivable Processing	The Accounts Receivable component manages revenue streams. Note: Assume that DHS systems will interface SWIFT to do G/L accounting for payables and to issue and receive funds.	MN DHS
Financial Accounting and Reporting	The Financial Accounting & Reporting component enables generation of financial reports (e.g. monthly summary reports, annual report) and publishes these reports to stakeholders. It supports accounting of all financial transactions and all assets and liabilities. Beyond the general budgeting, accounting and reporting needs of the Department, this component supports accounting for client payments collected by the Department and reconciles this with payment obligations for providers. <i>Note: Assume that DHS systems will interface SWIFT to do</i> <i>G/L accounting for payables and to issue and receive funds.</i>	KERA



#### **Common Business Components**



#### Collaboration

Component Name	Description	Framework
Business Integration	Business Integration supports processes that span different	KERA
	organizations, business units, and systems. The business	
	integration component will facilitate transfer and	MN DHS
	synchronization of transaction data from one entity to	
	another according to the business requirements. The	
	Business Integration component facilitates the information	
	exchange and interfaces with external systems including	
	federal information sources such as the IRS, Social	
	Services Administration (SSA), or vital records for	
	verification and data purposes via an Enterprise Service	
	Bus. The Business Integration Component also provides for	
	information exchange with other State systems operating	
	under a different architecture model, including other State	
	agencies. State and Federal data exchange security	
	standards should be enforced when required by interfaced	
	systems. Further, the Integration Broker would interface	
	with appropriate vendors.	
	Maps to the following TOM elements: * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Data Integration	
	L4: Support for County-wide Data Matching L4: Support County Automated Programs L4: Support County-Managed Programs L4: Support for County-wide Program Information	
	L3: Manage Information Sharing with Court System	
	L4: Prepare Court Documents	
	L3: Manage Information Sharing with Client Health	
	Records	
	L3: Manage Information Sharing with Juvenile Justice	



Component Name	Description	Framework
	L3: Manage Information Sharing with State Vital Statistics	
	L3: Manage Information Sharing with Department of	
	Education	
	L3: Manage Information Sharing with Mental Health and	
	Substance Abuse	
	L3: Manage Information Sharing with Managed Care	
	Organization	
	L3: Manage Information Sharing with Individual Service	
	Providers	
	L3: Manage Information Sharing with MN Department of	
	Revenue	
	L3: Manage Information Sharing with Internal Revenue	
	Service	
	L3: Manage Information Sharing with MN Department of	
	Health	
	L3: Manage Information Sharing with the MN Department of	
	Corrections	
	L3: Manage Information Sharing with Other State Systems	
	L3: Manage Information Sharing with Law Enforcement	
	L3: Manage Information Sharing with Federal Government	
	Systems	
	L3: Manage Information Sharing with SMI	
	L3: Manage Information Sharing with MMIS	
	L3: Manage Information Sharing with SWIFT	
	L3: Manage Information Sharing with State Operated	
	Services (SOS)	
	L3: Manage Information Sharing with the Minnesota Sex	
	Offender Program (MSOP)	
	L3: Manage Information Sharing with EPIC	
	L3: Manage Information Sharing with Workforce 1	
	L3: Manage Information Sharing with Counties	
Communications	This system component manages and tracks	MN DHS
Management	communications to both internal and external parties.	
	<ul> <li>Maps to the following TOM elements:</li> <li>* identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Manage Client Communications <ul> <li>L4: Provide Help Desk Function*</li> <li>L4: Provide Call Center Function*</li> <li>L4: Provide Video Phone Function*</li> <li>L4: Maintain Public Web*</li> </ul> </li> <li>L3: Manage Communication Rules <ul> <li>L3: Manage Client Communications</li> </ul> </li> </ul>	
1	L4: Provide Help Desk Function*	



Component Name	Description	Framework
	L4: Provide Call Center Function* L4: Provide Video Phone Function* L4: Maintain Public Web* L3: Manage Contractor Communication	
Contact Center	<ul> <li>This component manages a multi-channel contact center, providing routing, call management, and reporting.</li> <li>The Contact Center component may be realized as a number of different physical products. Detailed analysis will determine the most appropriate mix of products which could include:</li> <li>Call Management Software, which manages the queue of inbound calls and routing to appropriate resources (e.g., by skill level, authority, language, availability), agent scheduling.</li> <li>Call Quality Management and Supervisor functions, which supports call monitoring, barge-in functions, and call quality tracking.</li> <li>Call Reporting and Productivity Software, which tracks call activity, agent productivity, and throughput in the contact center.</li> <li>Integrated management non-telephonic channels as required which could include video, email, TTY, and chat.</li> <li>Interface to DHS client and provider management systems.</li> <li>Call transfer capabilities</li> </ul> Maps to the following TOM elements: <ul> <li>* identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Manage Client Communications</li> <li>L4: Provide Help Desk Function</li> <li>L4: Provide Video Phone Function</li> </ul>	



#### Information Management

Component Name	Description	Framework
Document Management	This supporting application stores and tracks electronic documents or images of paper documents. It associates the electronic files with the entity to which they relate (e.g., person, case, provider, agency, etc.). (Note: NHSIA assumes that electronic versions of documents are accepted as authentic by the human services community at large.)  Maps to the following TOM elements: * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Produce Solicitation L3: Advertise Solicitation Note that the mappings above refer to a scenario where the document management system is used directly. Document management is a key enabler across most business processes and is assumed to be present for most aspects of provider and client facing activities.	NHSIA
Knowledge and FAQ Management	The Knowledge Management component supports the organization and management of content on various electronic media and associated metadata to support content classification and retrieval (e.g. videos and presentations for marketing and training purposes). The component supports content and metadata management, manages taxonomy, stores, tags, and retrieves content. It also presents handles searches for general information about programs, agencies, service providers, and services. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Manage Knowledge	KERA NHSIA



Component Name	Description	Framework
Master Person Registry	The Master Person Registry component matches and identifies clients as well as providers across multiple systems and ties them together via a composite index. The identifier will include linkages to identify users across multiple programs and utilize a common client identifier and provider identifier. The component supports probabilistic matching of clients and providers and how it supports unique identification of persons who may be DHS clients and providers.	
Metadata Management	Metadata management enables management of different metadata sets across components. It will provide a way to reference and correlate information in different systems and support impact analysis and configuration tasks. Maps to the following TOM elements: * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Data Integration L3: Manage Metadata	
Master Data Management	Master Data Management components provide capabilities that help manage key data or reference data across systems. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Data Standardization L4: Manage Minimum Data Set (MDS)* L4: Manage GIS- Geographic Standards L4: Manage Reference Information	MN DHS
Records Management	This component manages records retention, disposition, holds, archival and other aspects of the records lifecycle. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Coordinate and Manage Records Retention for Case L3: Track User Access to Information L3: Manage Data Freeze Requirements L3: Audit Access to Information L3: Monitor and Manage Investigative Data Security	KERA NHSIA



Component Name	Description	Framework
Web Content Management	<ul> <li>Web Content Management supports the dissemination and management of information on internal and external websites. WCM systems will facilitate the distribution of authorship roles while providing centralized management of site structure and format.</li> <li>Maps to the following TOM elements: * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Maintain Public Web L4: Maintain Public Web Content L4: Maintain Internal DHS Web Content L4: Maintain Service Delivery Partner Web Content L4: Support for County-wide Program Information</li> </ul>	



# Workflow and Rules Management

Component Name	Description	Framework
Rules Management	The Rules Management component enables the management of the business rules that provide the business logic for the calculations and decisions within each integrated DHS program. The component triggers activities based on rules. Implementing business rules and workflow using this approach avoids making coding changes directly in an application.	KERA NHSIA
	<ul> <li>Maps to the following TOM elements:</li> <li>* identifies L4 mapping that needs to be verified as part of physical design phase of project</li> <li>L3: Manage Eligibility Criteria</li> <li>L3: Manage Program Rules</li> <li>L3: Manage Rules</li> <li>L3: Manage Rate Setting</li> <li>L4: Approve Rate Exceptions</li> <li>L4: Manage Rate Adjustments</li> <li>L3: Manage HIE Access Rules</li> </ul>	
Workflow Management	The Workflow Management component enables the management of business processes. It manages notifications, alerts, and workflow rules as pertaining to case manager assignments and workload management; intake; consumer screening, assessments and eligibility determination; waitlist management, and service planning, among other tasks. <b>Maps to the following TOM elements:</b> * identifies L4 mapping that needs to be verified as part of physical design phase of project L3: Manage Workflow (These are distinct elements for direct and distributed service delivery)	KERA NHSIA



# **Technical Application Components**

#### **Technical Support Components**





# **Business Intelligence and Data Warehouse**

Component Name	Description	Framework
Business Intelligence/Analytics	Business Intelligence and Analytics components provide statistical, trend, predictive, and other forms of analysis.	NHSIA
Data Warehouse	A data warehouse typically contains replicated information from production operational databases. The warehouse data is normally used for reporting and analysis.	NHSIA

# **Confidentiality Management**

Component Name	Description	Framework
Anonymization	The Anonymization component removes identifying characteristics from data being repurposed for other purposes (e.g., analysis, testing)	MN DHS
Encryption	Encryption provides the ability to encode into and decode data from formats that protect the integrity and security of the information.	MN DHS

#### Data Management

Component Name	Description	Framework
Data Transformation	Data Transformation components provide extract, transform and load capabilities which allow data to be migrated from one system to another system.	MN DHS

# Identity and Access Management

Component Name	Description	Framework
Authentication	Authentication components provide capabilities to manage different methods for assuring the identity of a user. These components track identifying information including login and different verification factors.	MN DHS
Authorization	Authorization manages the membership of different individuals in groups and provides a mechanism for requesting applications to determine whether a user should have access to a resource.	MN DHS



Component Name	Description	Framework
Digital Signatures	Digital signatures provide a capability to encrypt information for purposes of secure transmission or non-repudiation.	MN DHS
Identity Management	Identity management components provide capabilities to manage identifying information across systems.	MN DHS
Privilege Management	Privilege management components provide capabilities to manage user privileges across infrastructure.	MN DHS

#### IT Management

Component Name	Description	Framework
Application Management	This component enables the management of application and infrastructure availability. This component supports the standard application delivery life cycle, including project management tools, CASE and Repository tools, and development and testing tools.	MN DHS
IT Operations Management	This component enables the management of IT operations by through monitoring and alerting. This component supports standard ITIL functions.	MN DHS
Service Desk Management	This component manages a variety of different processes required to address requests and handle problems in the environment. This component supports standard ITIL functions.	MN DHS
Technical Management	This component manages technology within the environment. It includes the management of IT assets and configuration management (standard configurations of hardware and software). This component supports standard ITIL functions.	MN DHS

#### Infrastructure

Component Name	Description	Framework
Application Server	Application Server components provide generic functionality supporting applications. Typically, application servers are a technical pre-requisite for Java based applications but similar concepts exist for other technologies.	MN DHS



RDBMS	Relational Database Management System manages relational data. It is a technical pre-requisite for many components.	MN DHS

#### **Intrusion Management**

Component Name	Description	Framework
Audit	This component provides access logging and audit trails for system changes required to assert the integrity of the system and the data.	MN DHS
Intrusion Prevention	This component detects unusual or potentially malicious activity and protects system integrity by denying access and/or issuing alerts.	MN DHS

# System Interoperability Management

Component Name	Description	Framework
Data Integration Management	This component supports the provision of business data and the flow of data.	MN DHS
System Integration Management	This component supports the flow of business transactions across boundaries and systems.	MN DHS

# Workflow and Rules Processing

Component Name	Description	Framework
Rules Processing	The business rules engine's purpose is to both serve as a documented repository of business logic as well as being an executable part of the overall architecture in the application of those rules within the architecture.	NHSIA KERA
Workflow Processing	The workflow engine enables work tasks to be automated and distributed to designated individuals. A business rules engine is a standard component for State IT Systems.	NHSIA KERA



## **Communications Interface Components**



#### Access

Component Name	Description	Framework
Kiosk	The public uses a self-service kiosk to access information and provide information. Installed in a public place. Substitutes for a personal computer.	NHSIA
Mobile	This component supports delivery of information to mobile devices and includes mobile device management where appropriate.	MN DHS
Portal	The portal is a single point of access web application user interface that allows all users to access DHS programs and services. The portal is based upon the philosophy that there should be 'no wrong door' as a citizen navigates through the State website. Consequently, the public portions of the DHS portal must conform to the layout, look, and feel of the existing State portal. The portal allows for online applications, reapplications and benefit renewals, consumer change of data and automated processes that result in reduction of enrollment time and duplicative efforts on behalf of clients and DHS staff. The portal must also support navigation between systems regardless of which agencies' servers are hosting the content. The portal allows different user groups (clients, administrators, providers, and vendors) to access DHS programs and services via portal views with different access options customized to those specific user groups.	KERA



## **Unified Communications**

Component Name	Description	Framework
E-Mail	This component provides support for messages and notifications transmitted through internet e-mail protocols.	KERA
Fax	In this context, a phone-based system to scan and send information from a page (e.g., printed document or image) to a receiving fax machine (or computer).	NHSIA
IVR	An automated telephone system that is menu-based and allows callers to listen to information about specific topics and complete selected transactions. May be used to receive a limited set of inputs from the caller, exchange personal voice messages, to select and deliver verbal information, and/or to process selected transactions.	NHSIA
Text Messaging	Text messaging allows for outbound communications and confirmations using cellular phone text messaging protocols.	KERA



# Appendix E: Technology Architecture Details

The technology architecture describes how the technology supports the application components which provide functionality to enable business processes. The following elements have been defined:

- **Technology Nodes**, which are logical servers supporting a component. It is expected that there will be different kinds of node configurations required to support applications.
- Locations, where the technology nodes are placed. Understanding the locations and the flow of information between locations is an important input to developing a network architecture.

#### **Technology Nodes**

The diagram below describes how nodes are arranged into logical zones.



Regional, County and S	Service Delivery Locations
------------------------	----------------------------

Node	Туре	Description
External Zone		Untrusted devices used by external clients to access public services via the public internet. This includes mobile devices.
External Systems	End Point	Systems accessing data services hosted by DHS.
Internet	End Point	Devices accessing resources through internet channels. E.g., client computer using a web browser to connect to DHS online.
Internal Zone		Devices owned by DHS on its internal network.
Workstation	End Point	A typical workstation configured to access DHS systems.
Client Alternate Access Zone		Devices supporting access by clients through controlled platforms.
Kiosk	End Point	A preconfigured and locked down workstation used by clients in service delivery locations.



Node	Туре	Description			
IVR	IVR	A solution that provides a telephony interface to business systems.			
Counter	Counter Workstation	A workstation used by clients in service delivery locations.			
Extranet Zone		Access by external systems owned by trusted partners.			
External State Systems	n/a	Servers hosting state systems external to the DHS environment.			
External County Systems	n/a	Servers hosting county systems.			
Partner Systems	n/a	Servers hosting partner systems.			
Demilitarized Zone		Devices which broker connections to secure zones.			
Portal	App Server	A server providing access to application components			
Web Server	Web Server	A server managing web traffic and serving web requests			
Virtual Private Network	App Server	A server managing connections through VPN			
Business Application Zone		Servers which host applications used in core business functions.			
Business Management	App Server	<ul> <li>Servers hosting business management components including:</li> <li>Asset Management</li> <li>Human Resources Management</li> <li>Financial Accounting &amp; Reporting</li> <li>Quality Assurance</li> <li>Procurement Management</li> <li>Contract Management</li> <li>Policy &amp; Oversight Management</li> <li>Business Agreement Management</li> </ul>			
Case Management	App Server	Servers hosting the case management component.			
Core Components	App Server	<ul> <li>Servers hosting critical business services including:</li> <li>Eligibility &amp; Enrollment</li> <li>Needs Assessment</li> <li>Eligibility Determination</li> <li>Appeals Management</li> <li>Service Management</li> <li>Claims Management</li> <li>Caseload Management</li> <li>Service Planning and Monitoring</li> <li>Service &amp; Funding Approval</li> <li>Program Planning &amp; Management</li> </ul>			
Financial	App Server	<ul> <li>Servers hosting financial systems including:</li> <li>Financial Management</li> <li>Accounts Receivable Processing</li> <li>Accounts Payable Processing</li> <li>Payments, Collections, &amp; Recovery Management</li> <li>Grants Management</li> </ul>			



Node	Туре	Description
Service Delivery	App Server	<ul> <li>Servers hosting non-case management service delivery components including:</li> <li>Client Management</li> <li>Client Transfer</li> <li>Provider &amp; Contractor Management</li> <li>Provider &amp; Contractor Information Management</li> <li>Provider Certification &amp; Licensing</li> <li>Marketing &amp; Outreach</li> <li>Complaint Management</li> </ul>
Program Planning and Management	App Server	Servers hosting business administration components.
Enrollment	App Server	Server hosting the Enrollment Management component.
Support Application Zone		Servers which host applications that support non-core business functions.
Business Support	App Server	<ul> <li>Servers which support general business applications including:</li> <li>Scheduling</li> <li>Collaboration &amp; Coordination</li> <li>Communications Management</li> <li>Education &amp; Training</li> </ul>
Communications	App Server	<ul> <li>Servers which support communications and manage content including:</li> <li>Unified Communications</li> <li>Fax</li> <li>E-Mail</li> <li>Text Messaging</li> </ul>
Confidentiality Management	App Server	<ul> <li>Servers which manage data confidentiality including:</li> <li>Encryption</li> <li>Anonymization</li> </ul>
Identity and Access Management	App Server	<ul> <li>Servers which support identity and access management components including:</li> <li>Identity Management</li> <li>Privilege Management</li> <li>Digital Signatures</li> <li>Authentication</li> <li>Authorization</li> </ul>
Information Management	App Server	<ul> <li>Servers which support data/information management components including master data management and the following:</li> <li>Records &amp; Document Management</li> <li>Content Management</li> <li>Knowledge &amp; FAQ Management</li> </ul>
Integration	EAI Server	<ul> <li>Servers which support integration between components. This includes:</li> <li>System Integration Management</li> <li>Integration Broker</li> <li>Data Integration (Integration Content Processing)</li> </ul>
Intrusion Management	App Server / Appliance	<ul> <li>Servers which support intrusion management components including:</li> <li>Intrusion Prevention</li> <li>Audit</li> <li>Intrusion Detection</li> </ul>



Node	Туре	Description
IT Management	App Server	Servers which support IT management infrastructure including:
		Service Desk Management
		IT Operations Management
		Technical Management
		Application Management
Master Person	App Server	Servers which support the master person registry.
Registry		
Workflow & Rules	App Server	Servers which support workflow and rules components including:
		Rules Management
		Rules Processing
		Workflow Management
		Workflow Processing
Business Intelligence Zone		Servers which host components that provide BI capabilities.
Data Management	App Server	Servers that support data extract, transform and loads and meta data
		management associated with the data warehouse. This includes:
		Data Transformation
		Master Data Management
		Meta Data Management
Data Analysis and	App Server	Servers that manage data analysis and reporting services. This includes:
Reporting		Business Intelligence/Analytics
		Performance Monitoring
		Program Reporting
		Compliance Management
		Social Analytics
Data Zone		Servers that host databases and data access components.
Application Databases	DB Server	Servers that host operational data.
Data Marts	Appliance	Servers that host data marts including:
		Anonymized Data Mart
		Program-Specific Data Mart
		Government Reporting Data Mart
		County-Specific Data Mart
Data Warehouse	Appliance	An appliance that supports the data warehouse.
Operational Data Store	ODS Server	Servers that host operational data stores
Data Sandbox	Data Sandbox	Servers that supports the sandbox data store.
	Server	

# Node Types

A Node Type is a configuration of resources to supply the necessary capacity and performance for a specific node. In cases where additional performance is required, multiple instances of the same node type can be used. A sample specification of the Node Types required by the Logical Application Deployment Model is shown below. The State should optimize this sample configuration based on the specific requirements of the selected vendor and software.



					Storage				
Node Type	Description	vCPU	vCore	vRAM	HD (TB)	Tier 1	Tier 2	Tier 3	vNet
App Server	A general application server.	2	8	16	0.5				1
Appliance	A pre-configured, function-specific appliance.								1
DBMS	A database management system. Used by one or more applications (est. max 4) that require a database. Also used as a data mart (as is) or data warehouse (scale by 4).	2	24	128	0.25	0.25	1	2	10
Directory	A directory authenticates users.	1	4	4	0.25		1		1
EAI Server	An enterprise application integration server acts as SOA integrator, message broker or other type of integrator.	2	16	32	0.5		2		10
End Point	A client end point that could be either a desktop, laptop, tablet or smartphone.	1	2	4	0.25				1
External	A server or application external to the enterprise.								1
Web Server	A server that serves http/https web pages to browser clients.	1	4	4	0.5		0.5		1
ODS Server	An operational data store that acts as a data aggregator of application- specific databases and normalizes and "cleans" the data into a single data structure.	2	16	32	0.5	1	5	2	10

Combining the inventory of nodes with the specification of different node types provides an overall picture of the required physical infrastructure (hardware & software) to support the systems and consequently some of the key implementation and operating costs.



#### Locations

The diagram below provides a high-level conceptual view of the network architecture by describing how locations are connected.



The table defines and categorizes the locations associated with DHS business. It is expected that in every location there will be at least one node deployed. Some system functionality will be required in all locations. However, it may not be necessary for all components to be available everywhere. For example, a service delivery location may not require all business management functions or a mobile location may require some but not all service management functions.

Location Type	Description
DHS Location	A location at which the DHS conducts business.
Administration Office	A location at which the DHS administers its programs and operations.
Central Office	The central office at which centralized DHS administration occurs.
Service Delivery Office	An office location at which the DHS delivers services to clients.
Central Office	A central office location at which the DHS delivers services to clients.
Regional Service Delivery Location	A distributed regional or local office location at which the DHS delivers services to clients.





Location Type	Description
Worker Location	A location at which a DHS Worker delivers services to clients.
Kiosk Location	A kiosk at which the DHS delivers services to clients.
County/Tribe Location	A location at which a County or Tribe of the State conducts business.
Administration Office	A location at which the County or Tribe administers programs and operations.
Central Office	The central office of program administration for the County or Tribe.
Regional/Local Office	A distributed regional or local office location at which the County or Tribe administers programs and operations.
Service Delivery Office	A location at which the County or Tribe delivers services.
Central Office	A central office location at which the County or Tribe delivers services.
Regional/Local Office	A regional or local office location at which the County or Tribe delivers services.
Mobile Worker Location	Any location where the worker is working outside the office. It could include a client residence or worker residence.
Federal Government Location	A location at which the US federal government conducts business.
Administration Office	A location at which the US federal government administers programs.
Grants Administration Office	A location at which the US federal government processes grants.
Financial Processing Center	A location at which the US federal government processes financial transactions.
Provider Location	A location at which a service provider conducts business.
Administration Office	A location from which a service provider administers its business.
Central Office	A central office location from which a service provider administers its business.
Regional Office	A regional office location from which a service provider administers business.
Service Delivery Office	A location from which a service provider delivers services.
Central Office	A central office location from which a service provider delivers services.
Regional Office	A regional office location from which a service provider delivers services.
Hospital	A hospital operated by a service provider to deliver DHS services.
Mental Hospital	A mental hospital operated by a service provider to deliver DHS services.
Halfway House	A halfway house operated by a service provider to deliver DHS services.
Daycare	A daycare operated by a service provider to deliver DHS services.
Food Stamp Counter	A food stamp counter operated by a service provider to deliver DHS services.
Food Bank	A food bank operated by a service provider to deliver DHS services.



Location Type	Description
Homeless Shelter	A homeless shelter operated by a service provider to deliver DHS services.
Soup Kitchen	A soup kitchen operated by a service provider to deliver DHS services.
Client Location	The location of a client.
Residential Location	The residential location of the client (may be permanent or temporary)
Workplace Location	The location of the workplace of a client.
Mobile Location	A mobile client location (e.g. from where they are using their smartphone).
Hearing Location	A location at which a hearing is held for the purpose of resolving an issue.
Court	A court location at which a hearing is held.
Tribunal	A tribunal location at which a hearing is held.
Neutral Site	A neutral site location at which a hearing is held.



# Appendix F: Business Intelligence Requirements

This appendix provides a high-level mapping of generic business intelligence requirements to the Target Operating Model Business Function Group level. The table shows an "x" in the appropriate column where a particular BI capability is expected to support the business functions.

						Reo	Busir	ness Ir	ntellig Categ	ence orizat	ion _
Business Context DHS Program Governance and Monitoring	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Business Process (Level 4)	MN Description This business context supports overall governance and monitoring on parts of DHS.	Simple Reporting	Complex Reporting	Data Mining	Statistical Analysis	Visualization	Geospatial
	Performance Management				This business area deals with these focus areas: compliance management, performance evaluation, reporting. This business area is the NHSIA counterpart to the MITA						



						Rec	Busii Juiren	ness li nents	ntellig Categ	ence orizat	tion
Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Business Process (Level 4)	MN Description	Simple Reporting	Complex Reporting	Data Mining	Statistical Analysis	Visualization	Geospatial
					Performance Management business area.				•		
		Compliance Management			This business function group performs auditing and tracking to determine necessity and appropriateness of care and quality of care, fraud and abuse, erroneous payments, and administrative abuses.		x	x	x		



							Busir	ness li	ntellig	ence	
						Rec	quiren	nents	Categ	oriza	tion
Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Business Process (Level 4)	MN Description	Simple Reporting	Complex Reporting	Data Mining	Statistical Analysis	Visualization	Geospatial
		Performance			This business						
		Evaluation			involves the						
					selection and use of						
					a limited number of						
					indicators that can						
					track critical						
					processes and						
					and among						
					accountable						
					stakeholders, the	x	x	x	x	х	x
					collection and			~	~		~
					analysis of data on						
					those indicators, and						
					available to inform						
					assessments of the						
					effectiveness of an						
					intervention and the						
					contributions of						
					accountable entities.						
					Financial						
					periormance can be						



						Rec	Busir Juiren	ness Ir nents	ntellig Categ	ence orizat	ion
Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Business Process (Level 4)	MN Description	Simple Reporting	Complex Reporting	Data Mining	Statistical Analysis	Visualization	Geospatial
					considered as such.						
	Program Management				The business area deals with strategic planning, policy making, monitoring, and oversight activities of the agency.						
		Program Policy and Inter- Program Coordination			This business function group provides support to the management of Agency programs including rate setting, eligibility criteria, reference information, program policies and						



						Dee	Busir	ness Ir	ntellig	ence	
						кес	uiren	ients	Categ	orizai	tion
Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Business Process (Level 4)	MN Description	Simple Reporting	Complex Reporting	Data Mining	Statistical Analysis	Visualization	Geospatial
					how programs						
					interact and						
					cooperate to						
					achieve common						
					outcomes.						
		Program /			This business						
		Service			function group						
		Forecasting			provides supports						
		and Risk			program design,						
		Assessment			program level of						
					service and topic						
					areas for new						
					services It supports						
					the planning and		х		х	х	х
					provisioning of						
					resources and						
					facilities for effective						
					operation of new						
					programs as well as						
					risk mitigation						
					strategies for the						
					programs. It						



						Rec	Busiı Juiren	ness Ir nents	ntellig Categ	ence orizat	tion
Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Business Process (Level 4)	MN Description	Simple Reporting	Complex Reporting	Data Mining	Statistical Analysis	Visualization	Geospatial
					configures the way a certain service is						
					delivered as part of						
					a program.						
		Service			This business						
		Delivery			function group						
		Oversignt			supports State						
					service delivery functions and processes.						



# State of Minnesota

Alternatives Analysis

FINAL

kpmg.com

## Purpose of this document

KPMG was engaged by the Minnesota Department of Human Services (DHS) to assist with the State's Enterprise Systems Modernization (ESM) initiative. This report is designed to present alternatives for the State's consideration as it moves forward with its ESM planning.

#### **Document History**

Version	Description	Date
1-6.0	First TOC and Outline	January 15, 2013
7-11.0	Adding Context Language	January 30, 2013
12 - 26.0	Updates after on-site visit	April 5, 2013
27	Incorporating DHS feedback into final draft	May 8, 2013

© 2012 KPMG LLP, a U.S. limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International, a Swiss cooperative. All rights reserved. Printed in the U.S.A.

KPMG and the KPMG logo are registered trademarks of KPMG International, a Swiss cooperative.

Restriction on Disclosure and Use of Data – This document contains confidential or proprietary information of KPMG LLP, the disclosure of which would provide a competitive advantage to others; therefore, the recipient shall not disclose, use, or duplicate this document, in whole or in part, for any purpose other than recipient's consideration of KPMG LLP's proposal.


# Table of Contents

#### Table of Contents

1 E>	ecutive Summary	3
1.1 1 2	Report Overview	3
1.3	Major Findings and Recommendations	4
1.4	Summary of Proposed Alternatives	5
2 Int	roduction	6
2.1	Project Mandate	6
2.2 2.3	Project Scope Purpose of this Report	6 7
3 G	ap Analysis	8
3.1	Gap Analysis Process	8
3.2	Overview of Gap Analysis Tool	8
3.3	Gap Analysis Results Business Components - Current in-scope systems	12
3.4	Gap Analysis Results Business Components – Curam	19 20
3.6	Gap Analysis Results Technical Components – Cúram	20
3.7	Gap Analysis Results: Standards – Current in-scope systems	24
3.8	Gap Analysis Results: Standards – Cúram	25
3.9	Major Findings and Recommendations	27
3.10		51
4 Al	ternatives	38
4.1	Overview of Alternatives	38
4.Z 4 3	Alternative 1: Do Nothing	38
4.4	Alternative 2: Leverage Existing Systems	40
4.5	Alternative 3: Leverage Health Insurance Exchange (primarily Cúram)	41
4.6	Alternative 4: Use a Hybrid Approach	43
5 Conclusions		46
Glossary of Acronyms		47
Anne	andices	48
Appendices		
Appendix A: Detailed Gap Analysis Results		49
Appe	endix B: Detailed Analysis of Alternatives	50

# List of Figures

No table of figures entries found.

### Disclaimer

The purpose of this report is to document observations that came to our attention during our work and to offer our comments and recommendations for the State of Minnesota's consideration. Our procedures consisted of inquiry, observation, and analysis of provided information. Such work does not constitute an audit. Accordingly, we express no opinion on financial results, processes, other information or internal controls. The State of Minnesota is responsible for the decisions to implement any recommendations and for considering their impact. This report is meant solely for use by the State of Minnesota and may not be reproduced or shared with any third party without KPMG's consent except as may be allowed by the terms of our contract agreement.



# 1 Executive Summary

# 1.1 Report Overview

The Alternatives Analysis report is one of a series of deliverables developed as part of the Department of Human Services (DHS) Enterprise Systems Modernization (ESM) Planning initiative. The alternatives analysis report documents the gap analysis between key current legacy systems that support DHS programs, and the future state requirements (described in the DHS Enterprise Systems Modernization Future State Requirements and Architecture Report). The gap analysis informs the analysis of future state alternatives. The report begins by discussing the Alternatives Analysis's place in the broader Systems Modernization initiative. It then summarizes the gap analysis, which maps both existing system and Cúram software capabilities against the Target Operating Model, described in the Future State Requirements and Architecture Report. Finally, the report describes various alternatives available for the State's consideration, and defines the pros and cons of each.

### 1.2 Approach to developing the Alternatives Analysis

The Alternatives Analysis was developed as a natural progression of DHS's and KPMG's combined efforts to advance the modernization project. The Alternatives Analysis assesses the broad strategic options for DHS to realize the business objectives defined in the modernization vision (described in the Future State Requirements and Architecture Report) to achieve integrated functional service delivery across program areas, to facilitate integrated case management for clients, increased client self service via multiple access methods, and greater integration of information to support program evaluation, performance management, and continuous improvement.

KPMG's first step in the development of the Alternatives Analysis was the creation of a Target Operating Model and related requirements. These artifacts were developed in coordination with DHS stakeholders through workshops and review of KPMG's requirements assessments. This is documented in the Requirements and Logical Architecture Report.

KPMG then performed a gap analysis, working with DHS to compare current system and Cúram capabilities against future state (Target Operating Model) requirements. This report summarizes the results of the gap analysis.

Based on these two inputs, KPMG considered the major strategic options available to DHS. We have considered the following options:

- 1. Do nothing continue to operate with the existing system portfolio. This option describes the implications of NOT proceeding with systems modernization
- 2. Leverage and build on existing systems this option considers the possibility of enhancing some combination of existing systems to realize the modernization vision



- 3. Leverage and build on the Health Benefits Exchange technology (primarily the Cúram solution, and associated technologies). This option would replace existing systems with a single integrated solution that is Cúram-based.
- Hybrid option this alternative leverages Cúram, and incorporates current systems, supplemental software acquisition, and/or custom build where it makes sense to do so to minimize costs and risk while meeting requirements.

These four options are summarized in this Alternatives Analysis.

### 1.3 Major Findings and Recommendations

The gap analysis was conducted to evaluate the capabilities of current systems relative to the functions required in the future state vision for enterprise systems modernization, and the future state target operating model, as documented in the Requirements and Logical Architecture Report. At the highest level, the future state business vision includes support for integrated client case management across all DHS programs, increased levels of automated support to streamline processes and improve client service, and increased support for client self-service through multiple access methods, including the internet. From a technical perspective, the state has established a goal to migrate off of mainframe technologies and adopt more modern technologies.

In light of this vision and direction, the key findings of our analysis include:

- None of the current systems are currently designed to provide integrated Client Case Management across DHS program areas. DHS systems have been developed in relative isolation to support specific program areas. The systems have been developed at different points in time using technologies appropriate to the time, but without an intention to support significant integration across program areas. No attempt was made to standardize functions across the program areas. The systems were not designed with the intent to support significant levels of client self service.
- MAXIS, PRISM, and parts of SSIS are not considered strategic platforms. ADABAS Natural, which
  provides the platform on which MAXIS and PRISM are built, is not considered a strategic base for the
  target operating model. Delphi, which provides part of the platform for SSIS, is also not considered a
  strategic platform.
- Manual interaction is required for almost all business functions. Most business functions in the Target Operating Model require at least some level of manual interaction from current systems. One objective for the future state is to feature more robust automation capabilities and more streamlined processes.
- Greater functional automation is required by the user community than is provided by current systems. Based on gap analysis feedback provided, system users appear to desire more robust functional capabilities from systems than what is currently provided.



- Cúram appears capable of providing more robust functionality than what is offered by DHS's legacy systems. Cúram scored highly relative to the legacy systems for functionality on several key components, including Client Management and Eligibility & Enrollment Management.
- Cúram does not meet all of DHS's needs around Finance Management, Education, and Training. While Cúram does score highly in a number of gap analysis areas, certain components, including Finance Management and Education & Training, would likely require DHS to maintain supplemental systems.

### 1.4 Summary of Proposed Alternatives

KPMG has identified four potential solutions for DHS's consideration:

- Alternative 1: Do Nothing: DHS could elect to proceed with the status quo rather than investing in the proposed target architecture. DHS's most prominent benefit under this approach would be avoiding implementation costs. This approach features various downsides, including difficulty meeting federal standards and system tools that grow progressively more obsolete for system users.
- Alternative 2: Leverage Existing Systems: DHS may elect to continue with its current systems and apply upgrades, where possible, to meet Department objectives. The major benefit to this Alternative is that DHS does not have to incur major acquisition costs, nor does it have to introduce new technology to system users. A challenge to this Alternative is that existing systems may require cost-prohibitive or impractical upgrades for alignment with current and future standards and business needs. Additionally, existing legacy systems may, based on the results of the gap analysis, not be adequate to serve as the base for all functions and programs.
- Alternative 3: Leverage Health Benefits Exchange Technology (primarily Cúram): DHS has the option to use Cúram, the software being used for Minnesota's Health Insurance Exchange (HIX) integrated eligibility solution, to serve its human services needs. A number of supporting and supplemental technologies are being used with Cúram to meet the Exchange requirements. This approach could be beneficial to the State in that it would create a common, shared platform between the traditional human services system functions and those being employed for the Exchange. A risk to this approach is that the number of knowledgeable Cúram administrators and technicians is low relative to other major technology platforms. If the State implements Cúram, it may find itself relying on a smaller pool of more expensive outside resources for system maintenance and upgrades. State staff training will be necessary for all staff working on development and maintenance; training can be costly.
- Alternative 4: Use a Hybrid Approach: DHS could elect to use a combination of current systems, Cúram capabilities, and other third party technologies. This approach benefits DHS by allowing the State to pursue the option, regardless of vendor, it considers the most favorable to serve different purposes. A risk with the hybrid approach is that it will require compatibility and integration among various software platforms – which will add some cost and risk, but may be offset by avoiding certain costs, such as rebuilding solution components that already work well in legacy systems. It may also not have the benefit of reducing the diversity of platform tools.

These options are explored in greater depth in Section 4: Alternatives.



# 2 Introduction

# 2.1 Project Mandate

DHS has engaged KPMG to assist the Department in moving forward with its vision for an integrated human services delivery system and Enterprise Systems Modernization.

Specifically this initiative is intended to develop a strategic plan and roadmap for Enterprise Systems Modernization that supports DHS's vision for state-wide integrated human services delivery.

# 2.2 Project Scope

The project scope includes the development of the following key deliverables:

- Funding Approach
- Requirements Analysis
- Cost/Benefit Analysis
- Feasibility Study
- Alternatives Assessment (this report)
- Transformation Roadmap
- Request for Proposal Outline

As part of the Enterprise Systems Modernization project, all DHS programs are considered to be in scope for analysis.

The project is taking an integrated, functional view across all programs. The following Cross Program Functions are considered to be in scope:

- Assessment, Eligibility, and Enrollment
- Payment and Receipt Processing
- Fraud, Waste and Abuse
- Compliance
- Claims Tracking
- Performance Management and Business Intelligence
- Data Management
- Other Functions needed to support DHS Programs

The project is intended to align and Integrate with the following initiatives (but not duplicate their analysis and plans):



- Health Insurance Exchange the ESM project intends to leverage solutions, infrastructure, and business capabilities from HIX as appropriate, and identify integration requirements
- Health Care Programs (to be handled by HIX and MMIS Modernization) exception Recipient Programs – the ESM project will identify integration requirements with Health Care Programs
- MMIS Modernization (Claims Payment) the ESM project will identify integration requirements with Claims Payment and some functionality currently in MMIS will likely be moved, in part due to recommendations coming from this Modernization plan

The following will be out of scope for the Enterprise Systems Modernization planning project:

- Health Insurance Exchange the ESM project will not replicate requirements and plans for the HIX
- Health Care Programs Phase 1 (initial functionality) the ESM project will not replicate requirements and plans for the first phase
- MMIS Modernization (Claims Payment) the ESM project will not replicate or include requirements and plans for the MMIS Modernization (separately funded effort)"Back Office" functions such as HR, Finance, Asset Management, and Procurement functions (other than to identify interfaces required to financial and HR business functions and systems)
- Certain State-based Programs the Minnesota Sex Offender Program and State Operated Services will be considered out of scope

### 2.3 Purpose of this Report

The purpose of this Alternatives Analysis is to list options available to DHS to meet the business needs identified in the gap analysis. The Alternatives Analysis is a key document in presenting the options available to the State in designing its modernized architecture.



# 3 Gap Analysis

# 3.1 Gap Analysis Process

KPMG performed a gap analysis comparing DHS's legacy systems and the Cúram software product to the business functions and processes represented in the functional model of the Target Operating Model. The Target Operating Model serves as a basis for DHS's vision of an integrated human services delivery system. Each system was assessed to determine the degree to which functions are automated and supported within the system.

### 3.2 Overview of Gap Analysis Tool

KPMG used the aforementioned Target Operating Model (described in further detail in the Logical Architecture Report) and the inherent Functional Model to build a gap analysis tool. The functions incorporated into the tool represent the business functions and processes of DHS's future state integrated human services delivery system. The functional model was derived from a combination of federal guidance, the National Human Services Interoperability Architecture (NHSIA), Medicaid Information Technology Architecture (MITA) 3.0, Exchange Reference Architecture (ERA), the KPMG Enterprise Reference Architecture (KERA), and input from business users and system owners during functional workshops and document reviews.

Figure 1: DHS Functional Model



The business functions and processes in the functional model were assigned and grouped to Business Context Levels in the Business Context Top Model, which groups and maps the business functions and processes to four (4) distinct levels based on owner, accountability, service delivery, and support functions.



Figure 2: Business Context Top Model



As part of the gap analysis, systems were evaluated and mapped to the business function level (Level 3) of the functional model, which defines the functional decomposition of the business context top model shown above. The functional model is defined in more detail in the Requirements and Logical Architecture Report.

A screenshot of the gap analysis tool is displayed below:



#### Figure 3: Screenshot of Gap Analysis Tool

					MAXIS
Business Function			Automation		
(Level 3)	Business Process (Level 4)	MN Description	Required?	Automation Capability Score	
Preliminary Identification		This business function supports the			
of Client Needs		preliminary identification of the client's	Yes	Some manual interaction	
		reason/need for contact with the Agency.			<b>_</b>
Manage Client Triage		This business function manages the			
		broad assessment/preliminary screening	Vec	Some manual interaction	
		and data capture of client needs as part	165	Some manual interaction	
		of contact with the Agency.			
Process Referrals		This business function processes			
		incoming referrals of clients to the			
		Agency, which may include pre-screened			
		information.			
			Yes	Some manual interaction	
		Note: Outbound referrals to other			
		agencies are handled by another			
		business process (Process Client Referrals			
		to Community Partners/ Agencies )			

The following scale and color scheme was established for evaluating legacy systems and Cúram\*:

Figure 4: Functional Analysis Heat Map Legend

Functional Analysis			
Green	Highly Automated (Cúram: Out of the Box)		
Yellow	Some Manual Interaction (Cúram: Configuration)		
Orange	Little to no Automation (Cúram: Customization)		
Red	No Automation (Cúram: No functional support)		
No Color	Function does not require automation or, in rare cases, scores exactly in the middle of Red (No Automation) and Orange (Little to no Automation)		

Figure 5: Technical Analysis Heat Map Legend

Technical Analysis			
Green	The solution has the capability to deliver the technical requirement and makes it available to external applications		
Yellow	The solution has the technical functionality but does not make it available to external applications		



Figure 6: Standards Analysis Heat Map Legend

Standards Analysis		
Green	The solution maintains compliance with this standard	
Yellow	The solution maintains partial compliance with this standard	
Red	The solution does not maintain compliance with this standard	

\*Note: Because Cúram has not been implemented, it cannot be evaluated as an in-operation technology. Instead, Cúram is evaluated using terms that reflect its ability to perform functions once implemented. The Cúram assessment was done by Cúram representatives, and then reviewed and adjusted by KPMG and DHS team members based on their knowledge and experience with Cúram.

KPMG provided the gap analysis tool to system owners and county users in an effort to determine each system's functional and technical capabilities. In addition to the system owners for the systems listed in **Section 3.3: Gap Analysis Results Business Components - Current in-scope systems**, KPMG received feedback from user groups in the following counties:

Hennepin
 Morrison
 Ramsey

KPMG assigned numeric equivalents to each county's response and then weighted those scores to create a consolidated county score for each function.

As stated above, for the counties and system owners, responses were received at the Business Function Level. A detailed description of the process used to derive the Business Functions can be found in the Logical Architecture Report. The hierarchy of requirements is:

- Level 1 (broadest): Business Area
- Level 2: Business Function Group
- Level 3: Business Function
- Level 4: Business Process



Gap Analysis respondents provided their feedback at Level 3. KPMG presents the consolidated results in the following sections. Detailed Gap Analysis inputs can be found in [Insert Appendix A reference].

# 3.3 Gap Analysis Results Business Components - Current in-scope systems

MAXIS Description Eligibility determination and payment issuance system System Age 23 years Availability of Resource Resources and skills are scarce but available at a high price. Support Number of Users 6,045 Functional Volatility More than 1 change per month Maintainability Some changes create difficulties. The system can be costly to maintain and features long change cycles. Hardware/Software IBM Mainframe z/OS, Linux, WebSphere. System uses ADABAS and Natural. Future Viability Software AG has decided to move software to web-based environment, so support may no longer be viable. DHS would have to migrate to a new SAG product version and technology platform.

KPMG and DHS performed the gap analysis for the following systems:

MAXIS/MEC <sup>2</sup>			
Description	Front-end interface to MAXIS database for child care eligibility and benefits delivery		
System Age	4 years		
Availability of Resource Support	Resources and skills are scarce but available at a high price.		
Number of Users	1,484		
Functional Volatility	More than 1 change per month		



Maintainability	Some changes create difficulties. The system can be costly to maintain and features long change cycles.
Hardware/Software	Java web application front end. Back end is MAXIS (Natural/ADABAS).
Future Viability	Highly-linked to MAXIS. Software AG has decided to migrate to a web-based environment, so support may no longer be viable. DHS would have to migrate to a new SAG product version and technology platform.

PRISM			
Description	Child support enforcement system		
System Age	15 years		
Availability of Resource Support	Resources and skills are scarce but available at a high price.		
Number of Users	4,500		
Functional Volatility	Between 6 and 12 changes per year		
Maintainability	Some changes create difficulties. The system can be costly to maintain and features long change cycles.		
Hardware/Software	IBM Mainframe, z/OS, Linux, Websphere. System uses ADABAS and Natural.		
Future Viability	Software AG has decided to move software to web-based environment, so support may no longer be viable. Would have to migrate to new SAG product version and technology platform.		

SSIS			
Description	Case management system for county social workers, primarily supporting Child Welfare and related social services programs.		
System Age	15 years		
Availability of Resource	Resources and skills are readily available. Delphi skills may become scarce.		



Support	
Number of Users	6,000+
Functional Volatility	More than 1 change per month
Maintainability	Easy to maintain and well-supported
Hardware/Software	Windows, Oracle, Delphi. SSIS is undergoing a transition to a .NET environment.
Future Viability	Delphi is a dated technology and is not recommended for web-based applications.

SMI			
Description	Source of single identification for clients		
System Age	7 years		
Availability of Resource Support	Resources and skills are readily available		
Number of Users	1,900		
Functional Volatility	Less than 6 changes per year		
Maintainability	Some changes create difficulties. The system can be costly to maintain and features long change cycles.		
Hardware/Software	IBM DB2, SuSE Linux, Oracle, Websphere		
Future Viability	Java/DB2/web services application. Plan to migrate to Java and Oracle was halted. Technology is viewed as a current platform, though DB2 is not a DHS standard database.		

MnCHOICES						
Description	An automated, comprehensive and person-centered assessment and support planning application.					



System Age	Not yet implemented (estimated rollout in Summer 2013)
Availability of Resource Support	Resources and skills are readily available.
Number of Users	4,000
Functional Volatility	Not applicable; not yet deployed
Maintainability	Not applicable; not yet deployed
Hardware/Software	Plan: MnCHOICES will be integrated with SSIS (Windows, Oracle). System uses ILOG (in pilot). SSIS is undergoing a transition to a .NET environment.
Future Viability	Viability of system will be largely dependent on SSIS. Delphi is a dated technology and is not recommended for web-based applications. Plan has been to use .NET components where possible.

Teradata Data Warehouse							
Description	Data warehouse providing data storage and retrieval to support user-facing DHS systems.						
System Age	16 years (initial data warehouse), 6 years (renewal). Renewal is due again in 2013.						
Availability of Resource Support	Resources and skills are scarce but available at a high price.						
Number of Users	420 (11 agencies). The warehouse supports about 30 applications with an estimated 2,000+ users.						
Functional Volatility	Less than 6 changes per year						
Maintainability	Easy to maintain and well-supported.						
Hardware/Software	Teradata, ITU (Teradata Tool and Utilities)						
Future Viability	Teradata data warehouse was created in 1997 and migrated to a new Teradata platform in 2007. An RFP for the 2013 renewal is underway. DHS is considering migrating from Teradata to Exadata.						



MMIS/Minnesota Care						
Description	Portion of Medicaid system centered around managing client information					
System Age	23 years					
Availability of Resource Support	Current staff is knowledgeable and can maintain system. Resources becoming harder to find from outside.					
Number of Users	4000					
Functional Volatility	More than one change per month.					
Maintainability	Difficult to maintain. Due for modernization with MMIS effort recently funded.					
Hardware/Software	COBOL/VSAM/mainframe. Some Java/Oracle in use.					
Future Viability	COBOL is generally considered an older-generation language. While it has been supplemented over time to compete with more recent languages, it is frequently more complex than natively object-oriented programming languages.					



Results of the legacy system gap analysis can be summarized in the following heat map (System Owners):

Figure 7: System Owners Functional Heat Map

							Data	MMIS/ Minnesota	
Business Function	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Warehouse	Care	SMRT*
DHS Distributed Service Delivery									
DHS Distributed Client Management									
DHS Distributed Eligibility and Enrollment									
Management									
DHS Distributed Service Management									
DHS Distributed Provider Management									
DHS Distributed Contractor Management									
DHS Distributed Operations Management									
DHS Distributed Medicaid Claims Management									
DHS Distributed Communications, Education and									
Training									
DHS Direct Service Delivery									
DHS Direct Service Client Management									
DHS Direct Services Enrollment Management									
DHS Direct Service Management									
DHS Direct Service Provider Management									
DHS Direct Service Contractor Management									
DHS Direct Service Operations Management									
DHS Direct Service Communications, Education									
and Training									
DHS Distributed Support Services									
Local Finances Management									
DHS Support Services									
DHS Finances Management									
DHS Program Governance and Monitoring									
Performance Management									
Program Management									
Business Relationships									
Policy & Oversight									
Plan Management									

Note: KPMG performed an internal gap analysis over SMRT, but responses have not been validated by DHS.



Results of the legacy system gap analysis can be summarized in the following heat map (County Users):

Figure 8: County Users Functional Heat Map

							Data	MMIS/
Business Function	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	Care
DHS Distributed Service Delivery								
DHS Distributed Client Management								
DHS Distributed Eligibility and Enrollment Management								
DHS Distributed Service Management								
DHS Distributed Provider Management								
DHS Distributed Contractor Management								
DHS Distributed Operations Management								
DHS Distributed Medicaid Claims Management								
DHS Distributed Communications, Education and								
Training								
DHS Direct Service Delivery								
DHS Direct Service Client Management								
DHS Direct Services Enrollment Management								
DHS Direct Service Management								
DHS Direct Service Provider Management								
DHS Direct Service Contractor Management								
DHS Direct Service Operations Management								
DHS Direct Service Communications, Education and								
Training								
DHS Distributed Support Services								
Local Finances Management								
DHS Support Services								
DHS Finances Management								
DHS Program Governance and Monitoring								
Performance Management								
Program Management								
Business Relationships								
Policy & Oversight								
Plan Management								



### 3.4 Gap Analysis Results Business Components – Cúram

Based on institutional knowledge of Cúram's product offerings and with the assistance of a Cúram representative, KPMG performed a similar analysis on Cúram's capabilities to meet the functions identified in DHS's target operating model. The chart in Figure 9 reflects Cúram's capabilities matched up against the highest scoring legacy system for each in-scope functional area. KPMG notes that the analysis was conducted for broad Cúram capabilities; responses are not necessarily a reflection of the modules DHS already possesses.

	Legacy System High Score - Counties	Legacy System High Score – System Owners	Cúram
DHS Distributed Service Delivery			
DHS Distributed Client Management			
DHS Distributed Eligibility and Enrollment Management			
DHS Distributed Service Management			
DHS Distributed Provider Management			
DHS Distributed Contractor Management			
DHS Distributed Operations Management			
DHS Distributed Medicaid Claims Management			
DHS Distributed Communications, Education and Training			
DHS Direct Service Delivery			
DHS Direct Service Client Management			
DHS Direct Services Enrollment Management			
DHS Direct Service Management			
DHS Direct Service Provider Management			
DHS Direct Service Contractor Management			
DHS Direct Service Operations Management			
DHS Direct Service Communications, Education and Training			

Figure 9: Cúram Functional Analysis



DHS Distributed Support Services		
Local Finances Management		
DHS Support Services		
DHS Finances Management		
DHS Program Governance and Monitoring		
Performance Management		
Program Management		
Business Relationships		
Policy & Oversight		
Plan Management		

### 3.5 Gap Analysis Results Technical Components – Current in-scope systems

KPMG developed its gap analysis tool concurrently with the logical architecture report. The gap analysis tool was distributed to system administrators in December 2012 prior to the finalization of the logical architecture. The application component model, which is a vital element of the broader logical architecture, ultimately led KPMG to identify technical components that differed in certain aspects from the original technical gap analysis. The updated technical heat map is provided below based on the application component list provided in the logical architecture report. KPMG notes in Figure 10 any new technical components that were introduced and not consequently measured as part of the gap analysis. DHS and KPMG collectively determined that any new results obtained through an additional gap analysis are unlikely to materially alter this report's recommendations.

Figure 10: In-Scope Systems Technical Analysis

								Data
Technical Component / Tool	Component Category	Measured	MAXIS	SSIS	MEC2	PRISM	SMI	Warehouse
Technical Details	Implementation Language	No						
Technical Details	Operating System	No						
Technical Support Components	Business Intelligence and Data							
	Warehouse							
Technical Support Components	Business Intelligence/Analytics	Yes						
Technical Support Components	Data Warehouse	No						



Technical Support Components	Confidentiality Management				
Technical Support Components	Anonymization	Yes			
Technical Support Components	Encryption	Yes			
Technical Support Components	Data Management				
Technical Support Components	Data Transformation	Yes			
Technical Support Components	Master Data Management	Yes			
Technical Support Components	Identity and Access Management				
Technical Support Components	Authentication	Yes			
Technical Support Components	Authorization	Yes			
Technical Support Components	Digital Signatures	Yes			
Technical Support Components	Identity Management	Yes			
Technical Support Components	Privilege Management	Yes			
Technical Support Components	IT Management				
Technical Support Components	Application Management	No			
Technical Support Components	IT Operations Management	No			
Technical Support Components	Service Desk Management	No			
Technical Support Components	Technical Management	No			
Technical Support Components	Infrastructure				
Technical Support Components	Application Server	No			
Technical Support Components	RDBMS	Yes			
Technical Support Components	Intrusion Management				
Technical Support Components	Audit	Yes			
Technical Support Components	Intrusion Prevention	Yes			
Technical Support Components	System Interoperability Management				
Technical Support Components	Data Integration Management	Yes			
Technical Support Components	System Integration Management	Yes			
Technical Support Components	Workflow and Rules Processing				
Technical Support Components	Rules Processing	Yes			



Technical Support Components	Workflow Processing	Yes			
Communications Interface Components	Access				
Communications Interface Components	Kiosk	No			
Communications Interface Components	Mobile	Yes			
Communications Interface Components	Portal	Yes			
Communications Interface Components	Unified Communications				
Communications Interface Components	E-Mail	Yes			
Communications Interface Components	Fax	Yes			
Communications Interface Components	IVR	Yes			
Communications Interface Components	Text Messaging	Yes			

# 3.6 Gap Analysis Results Technical Components – Cúram

Figure 11: Cúram Technical Analysis

			Legacy System	
Technical Component / Tool	Component Category	Measured	, High Score	Cúram
Technical Details	Implementation Language	No		
Technical Details	Operating System	No		
Technical Support Components	Business Intelligence and Data Warehouse			
Technical Support Components	Business Intelligence/Analytics	Yes		
Technical Support Components	Data Warehouse	No		
Technical Support Components	Confidentiality Management			
Technical Support Components	Anonymization	Yes		
Technical Support Components	Encryption	Yes		
Technical Support Components	Data Management			
Technical Support Components	Data Transformation	Yes		
Technical Support Components	Master Data Management	Yes		



Technical Support Components	Identity and Access Management		
Technical Support Components	Authentication	Yes	
Technical Support Components	Authorization	Yes	
Technical Support Components	Digital Signatures	Yes	
Technical Support Components	Identity Management	Yes	
Technical Support Components	Privilege Management	Yes	
Technical Support Components	IT Management		
Technical Support Components	Application Management	No	
Technical Support Components	IT Operations Management	No	
Technical Support Components	Service Desk Management	No	
Technical Support Components	Technical Management	No	
Technical Support Components	Infrastructure		
Technical Support Components	Application Server	No	
Technical Support Components	RDBMS	Yes	
Technical Support Components	Intrusion Management		
Technical Support Components	Audit	Yes	
Technical Support Components	Intrusion Prevention	Yes	
Technical Support Components	System Interoperability Management		
Technical Support Components	Data Integration Management	Yes	
Technical Support Components	System Integration Management	Yes	
Technical Support Components	Workflow and Rules Processing		
Technical Support Components	Rules Processing	Yes	
Technical Support Components	Workflow Processing	Yes	
Communications Interface Components	Access		
Communications Interface Components	Kiosk	No	
Communications Interface Components	Mobile	Yes	
Communications Interface Components	Portal	Yes	
<b>Communications Interface Components</b>	Unified Communications		



Communications Interface Components	E-Mail	Yes	
Communications Interface Components	Fax	Yes	
Communications Interface Components	IVR	Yes	
Communications Interface Components	Text Messaging	Yes	

# 3.7 Gap Analysis Results: Standards – Current in-scope systems

For any legacy systems that DHS elects to incorporate into its future state architecture, DHS should conduct further analysis to determine if the system's shortcomings on any standards place the risk at broader compliance risk.

Figure 12: Legacy Systems Standards Analysis

Standard Process	MAXIS	SSIS	MEC2	PRISM	SMI
	Solution uses				
	Standard?	Standard?	Standard?	Standard?	Standard?
Technology Standards					
Architecture, Analysis, and Design Standards					
Service Interoperability Standards					
Security and Privacy Standards					
Business Enabling Technologies					
Data and Information Standards					
Legislation					
Federal Information Security Management Act					
(FISMA) of 2002					
Health Insurance Portability and Accountability Act					
(HIPAA) of 1996					
Health Information Technology for Economic and					
Clinical Health Act (HITECH) of 2009					
The Privacy Act of 1974					



The e-Government Act of 2002			
Patient Protection and Affordable Care Act of			
2010, Section 1561 Recommendations			
26 U.S.C § 6103, Safeguards for Protecting Federal			
Tax Returns and Return Information			

# 3.8 Gap Analysis Results: Standards – Cúram

Standard Process	Cúram
	Solution uses Standard?
Technology Standards	
Architecture, Analysis, and Design Standards	
Service Interoperability Standards	
Security and Privacy Standards	
Business Enabling Technologies	
Data and Information Standards	
Legislation	
Federal Information Security Management Act (FISMA) of 2002	
Health Insurance Portability and Accountability Act (HIPAA) of 1996	
Health Information Technology for Economic and	
The Drivery Act of 1074	
The a Covernment Act of 2002	
The e-Government Act of 2002	

Figure 13: Cúram Standards Analysis



Patient Protection and Affordable Care Act of 2010, Section 1561 Recommendations 26 U.S.C § 6103, Safeguards for Protecting Federal Tax Returns and Return Information



# 3.9 Major Findings and Recommendations

#### 3.9.1 Functional Analysis

#### • No single system covers all programs.

DHS does not maintain a single system that covers all functional areas under DHS's purview. This finding is not surprising; it is historically atypical for a State's human services agency to operate on a single, unified system. However, because DHS relies on a variety of systems for a variety of purposes, the IT environment is subject to a certain level of complexity inherent in systems that must communicate with one another. The use of diverse tool sets also requires that staff knowledge in many tools be maintained, and diverse technologies can be difficult to integrate effectively.

#### • Plans are underway to modernize the legacy MMIS platform.

DHS has received Federal funding to create a plan to modernize the legacy MMIS platform over the coming years separately from the Enterprise Systems Modernization initiative. The MMIS has two implications for the broader department modernization effort. One implication is that an assessment of existing MMIS capabilities is unlikely to account for the capabilities a future state MMIS system will offer. A second implication is that attempting to leverage the legacy MMIS platform is impractical since a reasonable possibility exists that that system will eventually be migrated to new technology.

#### • MAXIS, PRISM, and parts of SSIS are not considered strategic platforms.

MAXIS (Natural/ADABAS), PRISM (Natural/ADABAS), and parts of SSIS (Delphi) are not considered strategic platforms to serve as a basis for future technology decisions. Software AG has begun notifying organizations using Natural/ADABAS Natural technology that support will be either reduced or more expensive in future years for non-web services clients. In addition, while these tools have historically been reliable development platforms, they are not generally considered industry-leaders for new initiatives.

#### Local applications are used by counties as efforts to integrate services that are not currently supported by legacy systems.

For services and functions not supported by legacy systems, such as SSIS, local level applications have been created to bridge any current gaps and shortcomings in functionality. Local applications represent an effort to integrate services as part of social services delivery. This includes triage and screening, referrals to internal program areas, case assignments, service planning, and communication with providers and partners, or placement requests (i.e. Foster Homes). Information then has to be linked and reconciled with the designated legacy system.

#### • Manual interaction is required for almost all business functions.

Legacy systems are not generally able to meet functional components in a fully automated (no-touch, end-to-end processing) manner. Areas where systems can meet future components (such as MAXIS with



Eligibility & Enrollment Management and SSIS with Client Management) require some degree of manual interaction.

# • The data warehouse components provided little to no coverage of the required business functions, as expected by its inherent business purpose.

The data warehouse and business intelligence solutions have been in place for over 10 years, and are built on sound technologies. They are intended to support planning and reporting functions, however they scored relatively low in functional capacity. This high level assessment of these technologies points to the conclusion that there is significant room for improvement to meet future state requirements for data warehouse and business intelligence, KPMG will work with DHS to perform a more in-depth review of DHS's business intelligence offerings to further assess the warehouse's requirements and capabilities, recommend a strategic technology direction, and identify roadmap initiatives required to address the gaps in this area.

#### County users and system owners at times perceived the functional capabilities of systems differently.

In a number of cases, county end users scored system capabilities somewhat lower than how system owners scored the systems. While slightly less frequent, examples also emerged in which county users scored systems more highly than did system administrators. The discrepancies appear to be minor and not significant enough to dramatically change the conclusions on re-usability.

# • The conclusion is that, generally speaking, greater functional automation is required by the user community than is provided by current systems.

Based on gap analysis feedback provided, system users appear to desire more robust functional capabilities from systems than what is currently provided. Comments and gap analysis responses indicate that users must manually interact with systems with greater regularity than desired and there are many efficiencies to be gained with modernization.

# • The aging technologies used for MMIS indicate a need to modernize the system (part of a separate planning project).

DHS has already been funded for an initiative (separate from Enterprise Systems Modernization) to evaluate MMIS system capabilities and create a revised modernization plan. Using DHS's future MMIS platform may prove to be a viable option, but until that platform is selected, it is premature to assess MMIS's ability to serve as a broader platform for Enterprise Systems Modernization.

#### Cúram appears capable of providing more robust functionality than what is offered by DHS's legacy systems.

Cúram's assessed capabilities generally score higher than the legacy system functional capabilities score in terms of future system production capabilities. Cúram, for instance, scores highly in Client Management,



Service Management, and Provider Management, while legacy systems score moderately to inadequately in the same areas.

#### • Cúram does not meet all of DHS's needs around Finance Management and Education.

While Cúram scores highly in many functional areas, it is not likely capable of serving as a stand-alone solution to meet all of DHS's functional needs. Cúram does not score highly in certain functional areas, including Financial Management, Education, and Training. If DHS elects to use Cúram as a base platform moving forward, it will need to supplement the software with other tools more tailored to perform in areas where Cúram is weak in order to fully realize the future state vision.

#### 3.9.2 Technical Analysis

# • There is a certain degree of overlap between systems in technical components categories such as Business Intelligence, Confidentiality Management, and System Interoperability Management.

Instances of technical overlap may be indicative of opportunities to reduce duplication. Overlaps in technical system coverage are common in organizations where systems are added over time with only partial consideration to the broader systems environment. DHS should consider searching for opportunities to save or reallocate resources by decreasing duplication across department systems.

#### • The Cúram and HIX solution set provides robust support for a majority of technical components.

Since Cúram and the various related and supplemental technology components that have been acquired for the Health Insurance Exchange are considered to represent a potential solution for systems modernization, it is important to evaluate the software platform's ability to meet the target operating model's technical components. Cúram and the HIX stack provide support for a majority of technical components. If DHS elects to utilize Cúram, it will need to consider supplementing Cúram with additional software to meet some requirements and extending Cúram through customization to meet others.

#### 3.9.3 Standards and Legislative Analysis

#### No single system appears to have comprehensive coverage of all standards and legislative requirements.

DHS does not maintain any individual systems that meet all standards and legislative requirements identified in the target operating model. The Department should be cognizant of standards and legislative requirements when identifying the systems that will make up its future state environment. If gaps remain in standards and legislative coverage, DHS should consider supplementing or extending systems to cover those areas.

# • SMI, PRISM, and SSIS provide the highest documented levels of meeting technical standards and legislative requirements.

Three legacy systems score highest in meeting standards and legislative requirements: SMI, PRISM, and SSIS. Those systems meet seven, five, and five of the standards and legislative requirements, respectively.



• Cúram provides support for the majority of technical standards and legislative requirements.

Cúram's gap analysis scores indicate that the software platform meets 75% of standards and legislative functions. Using Cúram as the base platform could provide DHS with solid footing from a standards and legislation perspective, though DHS would likely want to consider attempting to extend or complement Cúram to reach 100% coverage.

• Further analysis may be required to determine Cúram's lack of support and alignment with Section 1561 of the Patient Protection and Affordable Care Act requirements.

One glaring area that came up negative for Cúram is its alignment with Section 1561 of the Affordable Care Act. Since that section is relevant to many DHS programs, DHS should consider following-up with Cúram to determine its suitability to assist with Section 1561compliance prior to implementing any Cúram software.



### 3.10 Detailed Analysis for Selected Components

KPMG provides additional details below on certain functional components that carry considerable weight when devising a Human Services Enterprise Architecture plan. The components selected for additional evaluation should not be seen as a complete list of important functions.

#### • MAXIS scored between some manual interaction and little to no automation in Eligibility and Enrollment Operations.

MAXIS, which provides eligibility for cash, health care, housing, foster care, and food programs, received a component score indicating some manual interaction (according to county users) or little to no automation (according to system owners). The specific breakdown of functions under the Eligibility and Enrollment Operations component for MAXIS is as follows:

Rusiness Function	Automation Required	MAXIS (County Users)	MAXIS (System Owners)
DHS Distributed Eligibility and Enrollment Management	Required		o unicity
DHS Distributed Client Enrollment			
Screening and Assessment	Yes		
Manage Eligibility Determination	Yes		
Assign Provider for Eligible Service(s)	Yes		
Enroll Client	Yes		
Disenroll Client	Yes		
Inquire Client Enrollment	Yes		

Figure 14: MAXIS Eligibility and Enrollment Operations Analysis



The Eligibility and Enrollment component is composed of six individual functions; none of the functions scored as "highly automated" according to county users. One of the functions scored as "highly automated" according to system owners. While responses rarely indicated a total lack of automation, responses appear to show that the eligibility and enrollment component, arguably one of the operating model's most important, could be further automated in a future state.

#### • No system shows robust capabilities around contractor management.

No DHS legacy system demonstrates robust capabilities around the Contractor Management component. The detailed system owner heat map is provided below. The detailed county user heat map for this component shows similar results.

	Automation							Data	MMIS/ Minnesota
Business Function	Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Warehouse	Care
DHS Distributed Service Delivery									
DHS Distributed Contractor Management									
DHS Distributed Contractor Information Management	Yes								
Manage Contractor Information	Yes								
Inquire Contractor Information	Yes								
DHS Distributed Contractor Support	Yes								
Manage Contractor Communication	Yes								
Perform Contractor Outreach	Yes								
Manage Contractor Grievance and Appeal	Yes								

Figure 15: Contractor Management Analysis



Business Function	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care
DHS Distributed Contract Management	Yes								
Produce Solicitation	Yes								
Advertise Solicitation	Yes								
Evaluate Proposal and Award Contract	Yes								
Manage Contracts	Yes								
Manage MOUs	Yes								
Manage Professional Service Agreements	Yes								
Manage Sponsorships	Yes								
Manage Allocations	Yes								
Process Award Letters	Yes								
Update/Revise MOUs and Professional Service Agreements	Yes								
Close Out Contract	Yes								

Note: On certain occasions, system respondents perceived differently whether automation is required for functions. In **Error! Reference source not found**., responses are white for system owners who did not answer "Yes" to 'Automation Required" for the functions Produce Solicitation, Advertise Solicitation, and Evaluate Proposal and Award Contract.



• SSIS features some automation for the Client Management, Eligibility & Enrollment, and Service Management, though system owner responses were stronger than county user responses.

SSIS provides for some automated capabilities related to Client Management, Eligibility & Enrollment Management, and Service Management. These functional components may all be considered important to the future state target operating model. A detailed functional heat map is provided below to demonstrate the specific functional capabilities that fall under these three components.

Figure 16:	SSIS	Detailed	Analysis
------------	------	----------	----------

	SSIS (System	SSIS (County Users)
DHS Distributed Client Management	Owners	
DHS Distributed Client Information Management		
Preliminary Identification of Client Needs		
Manage Client Triage		
Process Referrals		
Manage Client Intake		
Establish Client Account		
Manage Shared Client Information		
Establish Agency Client Information		
DHS Distributed Client Support		



Business Function	SSIS (System Owners)	SSIS (County Users)
Manage Client Communications		
Perform Population and Client Outreach		
DHS Distributed Eligibility and Enrollment Management		
DHS Distributed Client Enrollment		
Screening and Assessment		
Manage Eligibility Determination		
Assign Provider for Eligible Service(s)		
Enroll Client		
Disenroll Client		
Inquire Client Enrollment		
DHS Distributed Service Management		
DHS Distributed Core Service Management		
Establish Case		
Find Case Information		
Manage Case Information		



Business Function	SSIS (System Owners)	SSIS (County Users)
Develop Client-Based Service Plan (Goals, Methods and Outcomes)	· · · ·	
Conduct Investigation		
Service Arrangement, Referral, Placement		
DHS Distributed Approval Determination		
Manage Referrals		
Manage Service/Program Waiting List		
Approve Service		
Approve Service Plan		
Manage and Monitor Client and Service Plan Outcomes		
Review and Update Service Plan		
Review and Determine Compliance with Service Plan		
Cross-Agency Case Coordination		
Manage Transfer of Case		
Close Case		
Reopen Case		


	SSIS (System	SSIS (County Users)
Business Function	Owners)	
Case		
DHS Distributed Service Management Support		
Manage Client (Complaint) Grievance		
Manage Client Appeal, Hearing, and Lawsuit		



# 4 Alternatives

## 4.1 Overview of Alternatives

DHS's options can be categorized into four broad categories:

- 1. Alternative 1: Do Nothing
- 2. Alternative 2: Leverage Existing Systems
- 3. Alternative 3: Leverage Health Insurance Exchange (primarily Cúram
- 4. Alternative 4: Use a Hybrid Approach

Each option contains pros and cons, including functionality provided, cost savings opportunities, implementation challenges, training required, and compatibility of coexisting technology platforms. We list the options in the sections below. Detailed analysis of the benefits and challenges can be found in the Feasibility Study.

## 4.2 Detailed Analysis of Alternatives

To see how the business vision could be met under each alternative, KPMG analyzed each of the four options in comparison to the logical architecture application component model detailed in the Logical Architecture report. The analysis, which can be found in Appendix B: Detailed Analysis of Alternatives, identifies specific technologies that could be considered by DHS for Alternatives 2-4, to meet the requirements of each of the components in the application architecture. Therefore, Appendix B identifies what solutions would be used to implement each of the components of the future state application architecture. This analysis serves as the basis for the summary of alternatives provided below, and also serves as a basis for developing cost and work effort estimates for the roadmap. The detailed analysis does not contain Alternative 1, as the fundamental principle of that option is that the State would be deciding against modernization.

# 4.3 Alternative 1: Do Nothing

DHS could elect to disregard the models presented in the Logical Architecture Report and proceed with the status quo. Benefits and challenges to this approach include:

	Benefits		Challenges
•	Implementation costs are avoided	•	The vision for integrated service delivery for DHS across the many programs delivered cannot be achieved
		•	The State technology direction cannot be



achieved
• Current systems lack flexibility needed to continue to meet federal and state regulations and business requirements, which can be expected to continue to change
<ul> <li>User experiences are likely to grow progressively poorer relative to other market technologies</li> </ul>
<ul> <li>Systems-support risks and costs will grow significantly</li> </ul>

- ☑ Implementation costs are avoided: Under the "Do Nothing" approach, DHS would avoid the costs associated with procuring and implementing new technologies. These costs would include software, hardware, contractor payments, and license fees, among many others.
- Integrated DHS Service Delivery Vision not supported: The vision for integrated service delivery for DHS across the many programs delivered cannot be achieved in this alternative. None of the following would be achievable: a single view of client data, better integration and coordination of service delivery and case management across programs, enhanced fraud detection, greater automation and process streamlining, increased client self service and accessibility, and improved program and service management information.
- State technology direction not supported: The stated technology direction for the State is to decommission mainframe technologies by 2015. This objective will not be achievable in the "Do Nothing" approach due to major dependencies on mainframe based technologies. Even migration of these systems to newer platforms will consume time, money and resources.
- Current systems may lack flexibility needed to meet federal regulations: DHS may find its current systems increasingly difficult to maintain and enhance to meet federal and state requirements and standards issued by CMS and other state and federal oversight bodies. DHS should consider its responsibilities for alignment with MITA, ERA, and NHSIA, along with other federal and state-level requirements. It is prudent to assume that federal and state requirements are going to continue to change to meet the needs of health and human services target client groups, and in the "Do Nothing" alternative, it will be increasingly difficult and expensive for DHS to respond to these changing demands.
- User experiences are likely to grow progressively poorer relative to other market technologies: In their current state, DHS's systems already lag behind some systems used by other states in terms of look, feel, and robust user interaction options. As technology continues to progress, the system user base (including clients) will likely expect the ability to do more with systems than is currently possible. Furthermore, DHS users have provided feedback indicating that current systems are difficult to learn. By



doing nothing, DHS may bypass an opportunity to improve efficiency by reducing the time needed to learn how to use applications.

Systems support risks and costs will grow significantly: Support for existing systems is likely to grow progressively more expensive over time, as vendors no longer support products, the knowledge acquired by staff is lost through departures, and the availability of skills in obsolete technologies in the market is diminished. The inherent risk to business operations that rely on existing systems will grow in tandem, and increasing manual process will likely be required, which will further decrease productivity.

## 4.4 Alternative 2: Leverage Existing Systems

DHS could elect to proceed by making updates to its existing systems. This approach is based on DHS leveraging existing systems to build its future state environment. Alternative 2 requires DHS to convert legacy systems to server-based or other solutions that align with the State's directive to migrate away from mainframe technologies by 2015. Some of the benefits and challenges associated with this approach include:

	Benefits		Challenges
•	The vision for integrated service delivery for DHS across the many programs delivered can be achieved (although the feasibility of this is questionable)	•	The vision for integrated service delivery for DHS across the many programs delivered would be difficult and costly to achieve
•	DHS mainframe technology can be decommissioned	•	The State technology direction would be costly to achieve
•	Minimizes the need to rebuild functionality that already works well	•	when compared to the HIX Staff augmentation resources likely to be difficult
•	Relatively smaller costs to train existing technical resources		to find and costly if found

- ✓ Integrated DHS Service Delivery Vision supported: The assumption behind this alternative is that the vision for integrated service delivery for DHS across the many programs delivered would be achieved in this alternative. *The integrated service delivery vision includes*: a single view of client data, better integration and coordination of service delivery and case management across programs, enhanced fraud detection, greater automation and process streamlining, increased client self service and accessibility, and improved program and service management information. It would be extremely difficult and costly
- Mainframe systems are modernized: In accordance with the State's established directive, mainframe DHS systems, including MAXIS, MAXIS/MEC<sup>2</sup>, and PRISM would be migrated to server environments.



This change would keep DHS in compliance with the State's guidelines, and could potentially allow for increased flexibility versus mainframes.

- ☑ Little need to rebuild functionality that works well: Because this alternative calls for the use of legacy systems, DHS would have little need to rebuild portions of systems that can serve the Department's future state requirements.
- Relatively smaller costs to train technical existing resources: Because system technical users are already familiar with the in-operation systems, less training would be required relative to other options. Reduced training costs could allow DHS to allocate funding toward other areas of the modernization effort.
- Integrated DHS Service Delivery Vision difficult to achieve: The vision for integrated service delivery for DHS across the many programs delivered, while potentially achievable, would require significant effort to meet. The gap analysis indicates that the legacy systems have broad challenges meeting future state requirements. Consequently, the effort required to extend one or more legacy systems to serve most or all business needs may prove impractical.
- State technology direction difficult to achieve: The stated technology direction for the State is to decommission mainframe technologies by 2015. This objective will be difficult to achieve in the "Leverage Existing Systems" approach due to major dependencies on mainframe based technologies. Migration of these systems to newer platforms will consume time, money and resources.
- DHS systems would have duplicate functionality when compared to the HIX: A central functionality of the HIX is the determination of eligibility. Because Alternative 2 calls for modernization without use of HIX technology, DHS would in need to maintain a separate eligibility system apart from the exchange. Maintaining two eligibility systems would be likely to increase complexity and cost to the State, and would particularly result in increased cost to implement changes to rules a fundamental reality in the Health and Human Services program domain.
- Staff augmentation resources likely to be difficult to find and costly if found: The technologies supporting several of the legacy systems are not used as widely across the industry as they were in the past. Consequently, the number of available technical resources with the knowledge to develop and/or administer the systems is small. Identifying resources for staff augmentation who can appropriately develop and administer DHS legacy systems will be both difficult and costly.

## 4.5 Alternative 3: Leverage Health Insurance Exchange (primarily Cúram)

DHS could use the technologies acquired to support the Health Insurance Exchange (primarily Cúram) to meet its integrated service delivery vision. Benefits and challenges to this approach are:

	Benefits		Challenges
•	The vision for integrated service delivery for DHS across the many programs delivered can be	•	Required to rebuild or reconfigure existing functionality



	achieved	•	Acquire new technical resource capabilities
•	The State technology direction can be achieved		and expensive Cúram expertise
•	Minimal redundancy across the organization		
•	Leverages commercial software specifically- designed for human services		
•	Strong capabilities in key functional areas		
•	Viable platform for future enhancements		

- ✓ Integrated DHS Service Delivery Vision supported: The vision for integrated service delivery for DHS across the many programs delivered is relatively likely to be achieved in this alternative. The integrated service delivery vision includes: a single view of client data, better integration and coordination of service delivery and case management across programs, enhanced fraud detection, greater automation and process streamlining, increased client self service and accessibility, and improved program and service management information.
- State technology direction supported: The stated technology direction for the State is to decommission mainframe technologies by 2015. This objective will be achievable in the Alternative 3 approach as the State would be replacing mainframe technologies with server systems.
- Minimal redundancy across the organization: Using Cúram would allow the organization to achieve a high degree of consistency across the Department. Cúram is already being implemented for the Health Insurance Exchange and has been selected as the State's healthcare program eligibility provider, so leveraging additional Cúram capabilities could allow DHS to increase its return on investment while lowering the risk of technological redundancies across departments and program areas. Overall, this alternative helps to optimize ongoing operational costs, reducing total cost of ownership.
- Software is specifically-designed for human services: Cúram has developed its reputation as a provider of Human Services and Social Enterprise Management software and continues to brand-itself as market-focused. Furthermore, IBM (which purchased Cúram in 2011) and Cúram are active brands in the Human Services community nationwide, incentivizing the organization to maintain compliance with federal Human Services guidelines. DHS is likely to benefit from ongoing product enhancements that would not be available with Alternative 2.
- Strong capabilities in key functional areas: Cúram's gap analysis results showed that the system has robust functional capacity to automate functions related to the Client Management, Eligibility & Enrollment Management, Service Management, and Provider Management components. These components contain many functions central to human services operations. Cúram's functional gap analysis scores are typically higher than legacy DHS systems.



- ✓ Viable platform for future enhancements: Establishing a single commercial platform across the organization would allow DHS to take advantage of software enhancements as they are released by IBM. Custom-built solutions, on the other hand, typically require detailed internal development that can be resource, time, and cost-intensive.
- Required to rebuild or reconfigure existing functionality: Because Alternative 3 does not utilize legacy systems, the portions of legacy systems that could serve DHS's business needs would have to be rebuilt. This additional cost and effort could be considered suboptimal relative to expending the resources to build or enhance functionality that does not currently exist.
- ☑ Need to train resources and augment staff to gain Cúram expertise: A risk to adopting Cúram as the enterprise-wide solution for DHS is that the Department would be required to train system administrators, technical support resources, and end-users. Large-scale training efforts can be costly and time-consuming. Furthermore, DHS may need to acquire supplemental technical resources capable of managing a Cúram system. Because these resources are both scarce and in high demand among human services organizations, they tend to be expensive.

### 4.6 Alternative 4: Use a Hybrid Approach

An approach that mixes the second and third alternatives may be the most practical for DHS. The key difference between this alternative and Alternative 3 is that it allows DHS to use legacy systems where it deems appropriate – i.e. where legacy systems appear to be a better match with future state requirements than the HIX technologies. As the detailed analysis in Appendix B indicates, there are not many differences between Alternatives 3 and 4, as the HIX solution set meets most of the functional requirements more effectively. Pros and cons include:

	Benefits		Challenges
•	The vision for integrated service delivery for DHS	•	Required to rebuild or reconfigure existing
	achieved		Tunctionality
		٠	Acquire new technical resource capabilities
•	The State technology direction can be achieved		through training staff, including scarce and expensive Cúram expertise
•	Minimal redundancy across the organization		
•	Software is specifically-designed for human	•	Added complexity of integrating with legacy technologies
	services		
•	Strong capabilities in key functional areas	•	Mainframe system components, if used, must be migrated to new platform
•	Viable platform for future enhancements		
•	Avoid rebuilding existing functionality		



- ✓ Integrated DHS Service Delivery Vision supported: The vision for integrated service delivery for DHS across the many programs delivered is relatively likely to be achieved in this alternative. The integrated service delivery vision includes: a single view of client data, better integration and coordination of service delivery and case management across programs, enhanced fraud detection, greater automation and process streamlining, increased client self service and accessibility, and improved program and service management information.
- State technology direction supported: The stated technology direction for the State is to decommission mainframe technologies by 2015. This objective will be achievable in the Alternative 4 approach as the State would be either replacing mainframe technologies with server systems or migrating mainframe systems to server environments.
- Minimal redundancy across the organization: Using Cúram would allow the organization to achieve a high degree of consistency across the Department. Cúram is already being implemented for the Health Insurance Exchange and has been selected as the State's healthcare program eligibility provider, so leveraging additional Cúram capabilities could allow DHS to increase its return on investment while lowering the risk of technological redundancies across departments and program areas.
- Software is specifically-designed for human services: Cúram has developed its reputation as a provider of Human Services and Social Enterprise Management software and continues to brand-itself as market-focused. Furthermore, IBM (which purchased Cúram in 2011) and Cúram are active brands in the Human Services community nationwide, incentivizing the organization to maintain compliance with federal Human Services guidelines.
- Strong capabilities in key functional areas: Cúram's gap analysis results showed that the system has robust functional capacity to automate functions related to the Client Management, Eligibility & Enrollment Management, Service Management, and Provider Management components. These components contain many functions central to human services operations. Cúram's functional gap analysis scores are typically higher than legacy DHS systems.
- Viable platform for future enhancements: Establishing a single commercial platform across the organization would allow DHS to take advantage of software enhancements as they are released by IBM. Custom-built solutions, on the other hand, typically require detailed internal development that can be resource, time, and cost-intensive.
- Avoid rebuilding existing technology: Unlike Alternative 3, Alternative 4 permits DHS to use legacy resources where it determines it to be strategic. In doing so, DHS has the opportunity to avoid unnecessarily rebuilding portions of legacy systems that are functionally sufficient for long-term use.
- Required to rebuild or reconfigure existing functionality: Because Alternative 3 does not utilize legacy systems, the portions of legacy systems that could serve DHS's business needs would have to be rebuilt.



This additional cost and effort could be considered suboptimal relative to expending the resources to build or enhance functionality that does not currently exist.

- Need to train resources to gain Cúram expertise: A risk to adopting Cúram as the enterprise-wide solution for DHS is that the Department would be required to train system administrators, technical support resources, and end-users. Large-scale training efforts can be costly and time-consuming. Furthermore, DHS may need to acquire supplemental technical resources capable of managing a Cúram system. Because these resources are both scarce and in high demand among human services organizations, they tend to be expensive.
- Added complexity of integrating with legacy technologies: One challenge when melding a legacy environment and new systems is building integration between varying technologies. While the "best of all worlds" approach may allow for more efficient ways to increase functional reach, it does require DHS to strategically plan for how it will make systems built in different eras using different technologies interact and communicate.
- Mainframe systems must be migrated: To align with the State's no-mainframe directive, DHS would be required to migrate to non-mainframe systems any portions of its mainframe systems that it intends to reuse. These system migrations may prove costly from both an effort and financial perspective. It should be noted that mainframe migration must also be considered in Alternative 2: Leverage Existing Systems.



# **5** Conclusions

DHS's current systems have been in place for many years. To this point, they have served DHS well. As a department, DHS processes thousands of cases monthly spanning a variety of program areas, from cash and child care assistance to vulnerable adult protection and child support. Without well-built and appropriately maintained systems, DHS would not be able to help Minnesotans as it does.

However, it is clear from our assessment that the legacy system environment is inadequate to serve as a technological basis for DHS's future. As is the case with many government environments, the DHS system lifecycle is measured in decades instead of years. Current systems, which are typically 15 or more years old, and whose technical platforms are frequently past their prime, should be upgraded to serve DHS's future state needs.

Of the four alternatives KPMG assessed, only two are considered viable. Alternative 1 is not a viable option due to the high risks it poses and its inability to meet the requirements established for DHS's future state vision. Alternative 2 is similarly not a viable option. In comparison with the Leverage HIX (Alternative 3) and Hybrid (Alternative 4) approaches, it is reasonable to conclude that Alternative 2 presents similar or higher costs with a lower potential to succeed.

The two viable alternatives are Alternative 3: Leverage Health Insurance Exchange (primarily Cúram) and Alternative 4: Use a Hybrid Approach. Appendix B: Detailed Analysis of Alternatives provides an analysis by application component of the two primary viable alternatives for DHS's consideration. While both alternatives may prove suitable, Alternative 4 is likely the most beneficial to DHS since it contains the same advantages that Alternative 3 does, with the added ability to leverage existing technology where the State deems appropriate.



# Glossary of Acronyms

ACF	Administration for Children and Families (an agency of HHS)
CMS	Centers for Medicare and Medicaid Services (an agency of HHS)
CRUD	Create-Read-Update-Delete. Descriptions of interactions with data by either a business process or user.
DHS	Minnesota Department of Human Services
ERA	Exchange Reference Architecture (published by CMS)
ESM	Enterprise Systems Modernization planning project
HHS	US Department of Health and Human Services
ніх	Health Insurance Exchange
KERA	KPMG Enterprise Reference Architecture for Health and Human Services
MITA	Medicaid Information Technology Architecture (published by CMS)
MMIS	Medicaid Management Information System
NHSIA	National Human Services Interoperability Architecture (published by ACF)
PPACA	Patient Protection and Affordable Care Act (Public Law 111-148)
TOGAF	The Open Group Architecture Framework



# Appendices



# Appendix A: Detailed Gap Analysis Results

KPMG will provide detailed gap analysis results in a separate Appendix A named **DHS Alternatives Analysis Appendix A – Detailed Gap Analysis Results v6.FINAL**.



# Appendix B: Detailed Analysis of Alternatives

For the detailed analysis of alternatives, please see the following workbook: *DHS Alternatives Analysis Appendix B - Detailed Analysis of Alternatives.V24.FINAL.* 

Functional Heat Map Legend		
Green	Highly Automated ( <i>Cúram: Out of the Box</i> )	
Yellow	Some Manual Interaction (Cúram: Configuration)	
Orange	Little to no Automation (Cúram: Customization)	
Red	No Automation (Cúram: No functional support)	
No Color	Function does not require automation or, in rare cases, scores exactly in the middle of Red (No Automation) and Orange (Little to no Automation)	

	Technical Heat Map Legend
Green	The solution has the capability to deliver the technical requirement and makes it available t
Yellow	The solution has the technical functionality but does not make it available to external syster
Red	The solution does not have the capability to deliver the technical requirement

	Standards Heat Map Legend	
Green	The solution maintains compliance with this standard	
Yellow	The solution maintains partial compliance with this standard	
Red	The solution does not maintain compliance with this standard	

	Business	Business		nation red								MMIS/
Business	Area (Level	Function		qui							Data	Minnesota
Context	1)	Group (Level 2)	Business Function (Level 3)	Au Re	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Warehouse	Care
DHS Distribut	ted Service De	livery		No								
	DHS Distribut	ed Client Mana	gement	No								
		DHS Distribute	d Client Information Management	No								
			Preliminary Identification of Client Needs	Yes								
			Manage Client Triage	Yes								
			Process Referrals	Yes								
			Manage Client Intake	Yes								
			Establish Client Account	Yes								
			Manage Shared Client Information	Yes								
			Establish Agency Client Information	Yes								
		DHS Distribute	d Client Support	No								
			Manage Client Communications	Yes								
			Perform Population and Client Outreach	Yes								
	DHS Distribut	ed Eligibility an	d Enrollment Management	No								
		DHS Distribute	d Client Enrollment	No								
			Screening and Assessment	Yes								
			Manage Eligibility Determination	Yes								
			Assign Provider for Eligible Service(s)	Yes								
			Enroll Client	Yes								
			Disenroll Client	Yes								
			Inquire Client Enrollment	Yes								
	DHS Distribut	ed Service Man	agement	No								
		DHS Distribute	d Core Service Management	No								
			Establish Case	Yes								
			Find Case Information	Yes								
			Manage Case Information	Yes								
			Develop Client-Based Service Plan (Goals,	Yes								
			Methods and Outcomes)									
			Conduct Investigation	Yes								
			Service Arrangement, Referral, Placement	Yes								
		DHS Distribute	d Approval Determination	No								
			Manage Referrals	Yes								
			Manage Service/Program Waiting List	Yes								
			Approve Service	Yes								
			Approve Service Plan	Yes								
			Manage and Monitor Client and Service	Yes								
			Plan Outcomes									
			Review and Update Service Plan	Yes								
			Review and Determine Compliance with Service Plan	Yes								
			Cross-Agency Case Coordination	Yes								
			Manage Transfer of Case	Yes								
			Close Case	Yes								
			Reopen Case	Yes								
			Coordinate and Manage Records Retention	Yes								
			for Case									

				E								
	Business	Business		atic								MMIS/
Business	Area (Level	Function		quir							Data	Minnesota
Context	1)	Group (Level 2)	Business Function (Level 3)	Aut	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Warehouse	Care
		DHS Distributed	Service Management Support	No								
			Manage Client (Complaint) Grievance	Yes								
			Manage Client Appeal, Hearing, and	Yes								
			Lawsuit									
	DHS Distribut	ed Provider Ma	nagement	No								
		DHS Distributed	Provider Enrollment	No								
			Determine Provider Eligibility	Yes								
			Register Provider	Yes								
			Deactivate Provider Registration	Yes								
			Reactive Provider Registration	Yes								
			Disenroll Provider	Yes								
			Enroll Provider	Yes								
			Inquire Provider Enrollment	Yes								
			Manage and Issue Provider Licensing	Yes								
			Manage and Issue Provider Certifications	Yes								
			Monitoring and Oversight of Provider	Yes								
			License/Credentials/Certifications Changes									
			Monitor Provider Compliance	Voc								
		DHS Distributer	Provider Information Management	No								
		Dis Distributed	Establish Provider Information	Ves								
			Manage Provider Data	Yes								
			Find Provider Information	Yes								
			Manage Contract Providers	Yes								
			Manage Counties and Tribes as Providers	Yes								
-				103								
		DHS Distributed	d Provider Support	No								
			Manage Provider Communications and Notifications	Yes								
			Manage Provider Complaints, Grievance,	Yes								
			Perform Population and Provider Outreach	Yes								
-				103								
			Provide Provider Education and Training	Yes								
		DHS Distributed	d Provider Quality Assurance	No								
			Develop Provider Quality Measures	Yes								
			Track Provider Quality Measures	Yes								
	DHS Distribut	ed Contractor N	lanagement	No								
		DHS Distributed	d Contractor Information Management	No								
			Manage Contractor Information	Yes								
			Inquire Contractor Information	Yes								
		DHS Distributed	d Contractor Support	No								
			Manage Contractor Communication	Yes								
			Perform Contractor Outreach	Yes								

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care
			Manage Contractor Grievance and Appear	res								
		DHS Distribute	Contract Management	No								
		Distinguice	Produce Solicitation	No								
			Advertise Solicitation	No	-					-		
			Evaluate Proposal and Award Contract	No								
			Manage Contracts	Yes								
			Manage MOUs	Yes								
			Manage Professional Service Agreements	Yes								
			Manage Sponsorships	Yes								
			Manage Allocations	Yes								
			Process Award Letters	Yes								
			Update/Revise MOUs and Professional	Yes								
			Service Agreements									
			Close Out Contract	Yes								
	DHS Distribut	ed Operations N	Management	No								
		DHS Distributed	Payment and Reporting	No								
			Manage Electronic Billing Capability	Yes								
			Manage Electronic Notices	Yes								
			Manage Client Payments	Yes								
			Generate Remittance Advice	Yes								
			Inquire Payment Status	Yes								
			Brenerate Annual Benefits Notice	Yes								
		-	Manage and Bronare Local Reporting Data	Voc								
			Manage and Prepare Local Reporting Data	Vec								
			Data	res								
		DHS Distribute	1 Funds Collection and Disbursement	No								
		Drib Distributed	Manage Funds Collection from Child	Yes								
			Support									
			Collect EBT Replacement Charges	Yes								
			Manage Employers/Payors-of Funds	Yes								
			Manage Distribution of Funds	Yes								
			Manage Payments to Child Care Providers	Yes								
		DHS Distributed	Funds Recovery Management	No								
			Establish Overpayment	Yes								
			Establish Overpayment Billing Process	Yes								
			Manage Notifications of Overpayment	Yes								
			Manage Recoupments	Yes								
			Transfer Liability	Yes								
			Track Overpayment Actions and Activities	Yes								
			Determine and Manage Actions based on Failure to Comply with Overpayment	Yes								
			Manage Benefit Reduction or Recovery	Yes								

				E								
	Business	Business		atio								MMIS/
Business	Area (Level	Function		omä uire							Data	Minnesota
Context	1)	Group (Level 2)	Business Function (Level 3)	Auto	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Warehouse	Care
			Report on Overpayment Claims	Yes								
			Modify Policy and Procedure	No								
		DHS Distributed	Service Coordination Support	No								
			Manage Caseworker Information	Yes								
			Manage Caseworker-Team Relationships	Yes								
			Manage Caseworker-Function Relationship	Yes								
			Track Caseworker Training and	Yes								
			Certifications									
			Track Caseworker Performance	Yes								
			Manage Case Workload	Yes								
			Manage Workflow	Yes								
		DHS Distributed	A Information Services Management	No								
			Track User Access to Information	Yes								
			Manage Data Freeze Requirements	Voc								
			Audit Access to Information	Voc								
			Manage HIF Access Rules	Yes								
			Manage Access to External Parties	Yes								
			Manage Agreements with External Parties	Yes								
				105								
		DHS Distributed	Operational Reporting	No								
			Operational Reports Management	Yes								
	DHS Distribut	ed Medicaid Cla	ims Management	No								
		DHS Distributed	d Claims Management	No								
			Process Claim	Yes								
			Process Encounter	Yes								
			Calculate Spend-Down Amount	Yes								
			Submit Electronic Attachment	Yes								
			Apply Mass Adjustment	Yes								
			Provide Support for Federal Claims	Yes								
	DHS Distribut	ed Communicat	ions, Education and Training	No								
		DHS Distributed	A Communications Rules Management	INO								
			Manage Outreach Rules	Yes								
				No								
		Dis Distributed	Perform Outreach	Ves								
			Manage Public Reporting	Yes								
		DHS Distributed	Notifications	No								
			Issue Notifications	Yes								
		DHS Distributed	Education & Training	No								
			Share Inter-Agency Information and	Yes								
			Training	N								
			Develop Training for External Participants	Yes								
			and community Partners	Vcz								
			Develop Curriculum	res								
			Deriver fraining Events	INO								

	Business	Business			mation ired								MMIS/
Business	Area (Level	Function			equ							Data	Winnesota
Context	1)	Group (Level 2)	Business Function (I	Level 3)	Ă Ă	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Warehouse	Care
			Deliver Tools & Technologies		NO								
			Manage Resource Libraries		Yes								
			Register Participants		Yes								
			Manage ADA Compliance		Yes								
			Manage Training Evaluations		Yes								
DHS Direct S	nuico Dolivon		Provide Certifications		No								
DHS Direct Se	DHS Direct So	/ Invice Client Ma	nagoment		No								
	DHS Direct Se	DUS Direct Son	vice Client Information Manag	omont	No								
		DH3 Direct Serv	Broliminary Identification of C	liont Noods	Voc								
		-	Manage Client Triage	lient Neeus	Voc								
			Process Referrals		Voc								
		-	Manage Client Intake		Voc								
					Voc								
			Manage Shared Client Inform	ation	Vos								
			Establish Agency Client Inform		Voc								
		DHS Direct Ser	vice Client Support	lation	No								
		Dris Direct Serie	Manage Client Communicatio	ns	Yes								
	DHS Direct Se	ervices Enrollme	nt Management	115	No								
		DHS Direct Serv	vice Client Enrollment		No								
			Screening and Assessment		Yes								
	DHS Direct Se	rvice Managem	lent		No								
		DHS Direct Serv	vice Management Support		No								
			Manage Client (Complaint) Gr	ievance	Yes								
			Manage Client Appeal, Hearin	g, and	Yes								
			Lawsuit	-									
		DHS Direct Serv	vice Management		No								
			Manage Pre-Admission Proces	SS	Yes								
			Admit Client/Patient		Yes								
			Manage Treatment		Yes								
			Manage Treatment Room/Boa	ard	Yes								
			Develop Discharge Planning		Yes								
			Discharge Client /Patient		Yes								
			Manage Prevention		Yes								
			Manage Administrative and S	upport	Yes								
			Functions										
			Manage Billing to Counties		Yes								
	DHS Direct Se	rvice Provider N	Vanagement		No								
		DHS Direct Serv	vice Provider Enrollment		No								
			Determine Provider Eligibility		Yes								
			Register Provider		Yes								
			Deactivate Provider Registrati	on	Yes								
			Reactive Provider Registration	1	Yes								
			Disenroll Provider		Yes								
			Enroll Provider		Yes								
			Managa and Issue Dravid with	oncing	Vez								
			ivianage and issue Provider Lie	censing	Yes								

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care
			Manage and Issue Provider Certifications	Yes								
			Monitoring and Oversight of Provider	Yes								
			License/Credentials/Certifications Change	Mark								
			Monitor Provider Compliance	Yes								
				Tes								
			Manage Provider Citations	Yes								
			Manage Provider Sanctions	Yes								
			Manage Coordination of Communication To	Yes								
			External Parties of Provider Citations and Sanctions									
		DHS Direct Serv	vice Provider Information Management	No								
			Establish Provider Information	Yes								
			Manage Provider Data	Yes								
			Find Provider Information	Yes								
			Manage Contract Providers	Yes								
			Manage Counties as Providers	Yes								
		DHS Direct Serv	vice Provider Support	No								
			Manage Provider Communications and Notifications	Yes								
			Manage Provider Complaints, Grievance, and Appeal	Yes								
			Perform Population and Provider Outreach	Yes								
			Provide Provider Education and Training	No								
		DHS Direct Serv	vice Provider Quality Assurance	No								
			Develop Provider Quality Measures	Yes								
			Track Provider Quality Measures	Yes								
	DHS Direct Se	rvice Contracto	or Management	No								
		DHS Direct Serv	vice Contractor Information Management	No								
			Manage Contractor Information	Yes								
		DHS Direct Com	inquire contractor information	Yes								
		DHS Direct Serv	Manage Contractor Communication	Vec								
			Perform Contractor Outreach	Yes								
			Manage Contractor Grievance and Anneal	Yes								
		DHS Direct Serv	vice Contract Management	No								
			Produce Solicitation	No								
			Advertise Solicitation	No								
			Evaluate Proposal and Award Contract	No								
			Ivianage Contracts	Yes								
			Manage Professional Service Agreements	Yes								
			initianage Fronessional Service Agreements	162								
			Manage Sponsorships	Yes								

Busines Area (see)         Busines (surcino)         Busines Surcino (Level)         Particip Manage Alcadons         Ves         Same Area (see)														
Busines         Busines         Busines         Busines         Busines         Busines         Busines         Busines         MMXDS         SSN         MACE         PRISM         SSN         MMCHOLES         Windhowed           Concer         Import (Incred)         Import (Incred) <tdi< th=""><th></th><th></th><th></th><th></th><th></th><th>ы</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></tdi<>						ы								
Battines         Arreal (level signation)         Arreal (level signation		Business	Business			nati ired								MMIS/
Context         1         Order (2004)         Same Arrange         Context         Parts in the Context         Context <thcontext< th=""> <thcontext< th=""> <thcontext< <="" th=""><th>Business</th><th>Area (Level</th><th>Function</th><th>Ducine of Function</th><th>(1</th><th>utor equi</th><th>MANUC</th><th>6616</th><th>14500</th><th>DDICM</th><th>CN 41</th><th></th><th>Data</th><th>Minnesota</th></thcontext<></thcontext<></thcontext<>	Business	Area (Level	Function	Ducine of Function	(1	utor equi	MANUC	6616	14500	DDICM	CN 41		Data	Minnesota
image       image <td< th=""><th>Context</th><th>1)</th><th>Group (Level 2)</th><th>Manage Allocations</th><th>(Level 3)</th><th>V č</th><th>MAXIS</th><th>5515</th><th>MEC2</th><th>PRISIVI</th><th>SIVII</th><th>WINCHOICES</th><th>warenouse</th><th>Care</th></td<>	Context	1)	Group (Level 2)	Manage Allocations	(Level 3)	V č	MAXIS	5515	MEC2	PRISIVI	SIVII	WINCHOICES	warenouse	Care
i       Joint Markey Avoids Allowed Professional       103       Image Allowed Professional       104       Image Allowed Professional       105       Image Allowed Professional       106       Image Allowed Professional				Process Award Letters		Voc								
ind     ind </th <th></th> <th></th> <th></th> <th>Lindate/Revise MOLIs and F</th> <th>Professional</th> <th>Yes</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>				Lindate/Revise MOLIs and F	Professional	Yes								
Image Out Out Contract     Yes     Image Out Contract     Image Out Contract     Image Out Contract     Yes     I				Service Agreements	101033101101	103								
DH5 Direct Service Operations Support     No				Close Out Contract		Yes								
Image Conservation Support       No       No       Monge Caseworker Information       Yes		DHS Direct Se	ervice Operation	ns Management		No								
Image Caseworker Information     Yes     Image Caseworker Informationships     Yes			DHS Direct Serv	vice Coordination Support		No								
Image Caseworker Team Relationship       Yes       Image Caseworker Training and the second s				Manage Caseworker Inform	nation	Yes								
Image Caseworker Function Relationship     Yes     Image Caseworker Functionship     Yes     Image Caseworker Function Relationshi				Manage Caseworker-Team	Relationships	Yes								
Image of the service relations       Yes				Manage Caseworker-Functi	on Relationship	Yes								
ind     Certifications     Ves     Independent of the second of the s				Track Caseworker Training	and	Yes								
image service/regram Waiting Ust       Yes       image Service/Program Vaiting Ust       image Service/Program				Certifications										
Manage Case Workload     Yes     Image Case Workload     Yes     Image Case Workload     Yes     Image Case Workload     <				Track Caseworker Performa	ince	Yes								
Manage Service/Program Waiting List     Yes     Image Service/Program Verify Wes     Image Service Management     Yes     Image Service Management     Image Service Management     Yes     Image Service Management     Yes     Image Service Management     Image Service Management     Yes     Image Service Management </th <th></th> <th></th> <th></th> <th>Manage Case Workload</th> <th></th> <th>Yes</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>				Manage Case Workload		Yes								
Image Worklow       Yes       Image Worklow       Yes       Image Worklow       Image				Manage Service/Program V	Vaiting List	Yes								
Image Network       Yes       Image Network       Yes       Image Network       Image				Manage Workflow	<b>D</b> (	Yes								
Image Draduce AFCARS Reports       Yes       Image Description       No       Image Description       Image Description       Image Description       Image Description       Yes       Image Description       Image Descrip				Respond to Federal Program	n Performance	Yes								
Image User Service Information Services Management       No       Image User Access Privileges       Yes       Image User Access Privileges       Image User Access Privileges       Yes       <				Produce AFCARS Reports		Yes								
Image Or Access Privileges       Yes       Image Or Access Privileges       I			DHS Direct Serv	vice Information Services Ma	anagement	No								
Index User Access to Information       Yes       Image Dials Freeze Requirements       Yes       Image Dials Freeze Requirements <th></th> <th></th> <th></th> <th>Manage User Access Privile</th> <th>ges</th> <th>Yes</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>				Manage User Access Privile	ges	Yes								
Image Data Precess for life registering Parties       Yes       Image Data Precess for life registering Parties				Track User Access to Inform	nation	Yes								
Image Access to Individuality       Ites       Image Access to Individuality       Ites       Image Access to Individuality       Image Access to Indity       Image Access to Individuality       Im				Manage Data Freeze Requi	rements	Yes								
Image fills Access to External Parties       Yes       Image fills Access to External Parties				Manage HIE Access Pules	1	Voc								
Image Agreements with Extend Parties       Yes       Image Agreements       Image Agreements       Image Agreements       Yes       Image Agreements       Image Agreements       Yes       Image Agreements       Yes       Image Agreements       Image Agreements       Yes       Image Agreements       Image Agreements       Yes				Manage Access to External	Parties	Yes								
Image of the service of pertainal Reporting       No       Image of the service of the servi				Manage Agreements with F	External Parties	Yes								
Image: Construction of the second			DHS Direct Serv	vice Operational Reporting		No								
DHS Direct Service Communications, Education and Training       No       Image				Operational Reports Manag	gement	Yes								
Image Outreach Rules Management       No       Image Outreach Rules       Yes       Image Outreach Rules       Yes       Image Outreach       Image Outr		DHS Direct Se	ervice Communi	cations, Education and Train	ning	No								
Image Outreach Rules       Yes       Image Outreach Rules       Yes       Image Outreach       Image Outreach       Yes       Image Outreach       Image Outreach			DHS Direct Serv	vice Communications Rules	Management	No								
Image Communication Rules       Yes       Image Communicatin Rules				Manage Outreach Rules		Yes								
Image: NoNoNoImage: NoImage: No				Manage Communication Ru	ıles	Yes								
Image Perform Outreach       Yes       Image Perform Outreach       Image Perform Outreach       Y			DHS Direct Serv	vice Outreach		No								
Image Public Reporting       Yes       Image Public Reporting       Yes       Image Public Reporting       Image Public Report Re				Perform Outreach		Yes								
Image: DHS Direct Service Notifications       No       Image: Comparison of the compariso				Manage Public Reporting		Yes								
Image: Constraint of the state of the st			DHS Direct Serv	Vice Notifications		NO								
Image: State inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Training     Yes     Sector Control of the inter-Agency Information and Trainin			DHS Direct Com	vice Education & Training		No								
			DHS Direct Serv	Share Inter-Agency Informa	tion and	Yes								
De alex Terrisian las Ellacord Badianas de L				Training		105								
Develop Training for External Participants Yes				Develop Training for Extern	al Participants	Yes								
and Community Partners				and Community Partners		Ver								
Deliver Training Events No				Deliver Training Events		No								
Deliver Tools & Technologies No				Deliver Tools & Technologie	25	No								

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care
			Manage Resource Libraries	Yes								
			Register Participants	Yes								
			Manage ADA Compliance	Yes								
			Manage Training Evaluations	Yes								
			Provide Certifications	Yes								
DHS Distribu	ted Support Se	ervices		No								
	Local Finance	s Management		No								
		Local Accounts	Receivable Management	No								
			Manage Provider Recoupment	Yes								
			Manage TPL Recovery	Yes								
			Manage Estate Recovery	Yes								
			Manage Drug Rebate	Yes								
			Manage Cost Settlement	Yes								
			Ivianage Accounts Receivable Information	Yes								
			Manage Accounts Receivable Funds	Yes								
			Prepare Member Premium Invoice	Yes								
		Local Accounts	Payable Management	No								
			Manage EBT Transactions	Yes								
			Manage Contractor Payments	Yes								
			Manage Payments to Parents	Yes								
			Manage Client Financial Participation	Yes								
			Manage Incentive Payment	Yes								
			Manage Local-Level Accounts Payable Information	Yes								
			Manage Local-Level Accounts Payable Disbursement	Yes								
			Manage 1099	Yes								
		Local Fiscal Ma	nagement	No								
			Formulate Budget	Yes								
			Manage Budget Information	Yes								
			Manage Fund	Yes								
			Generate Financial Report	Yes								
			Provide Financial Data from Source System	Yes								
		Local Grants Ma	anagement	No								
			Manage Grants Allocated to Local Entities by the State	Yes								
<b>DHS Support</b>	Services			No								
	DHS Finances	Management		No								
		DHS Accounts F	eceivable Management	No								
			Manage Provider Recoupment	Yes								
			Manage Estate Recovery	Yes								
			Manage Drug Rebate	Yes								
			Manage Cost Settlement	Yes								
			ivianage Accounts Receivable Information	Yés								
			Manage Accounts Receivable Funds	Yes								

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3) Prepare Member Premium Invoice	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care
		DHS Accounts	Pavable Management	No								
			Manage Payments to other Agencies and Counties	Yes								
			Manage Incentive Payment	Yes								
			Manage State-Level Accounts Payable	Yes								
			Manage State-Level Accounts Payable Disbursement	Yes								
			Manage 1099	Yes								
		DHS Fiscal Man	agement	No								
			Formulate Budget	Yes								
			Manage Budget Information	Yes								
			Manage Fund	Yes								
			Generate Financial Report	Yes								
			Provide Financial Data from Source System	Yes								
		DHS Grants Ma	nagement	No								
			Manage Grants Allocated to the State by the Federal Government	Yes								
DHS Program	Governance	and Monitoring		No								
	Performance	Management		No								
		Compliance Ma	anagement	No								
			Design Surveillance Strategy and Method	Yes								
			Identify Employee Anomaly	Yes								
			Identify Enrollment Anomalies	Yes								
			Identify Utilization Anomalies	Yes								
			Identify Provider Anomalies	Yes								
			Identify Compliance Risks	Yes								
			Establish Compliance Incident / Investigative Case	Yes								
			Manage Compliance Incident Information	Yes								
			Monitor and Manage Investigative Data Security	Yes								
			Determine Action to Resolve Compliance Incident	Yes								
			Close Compliance Incident/Investigative Case	Yes								
		Performance Ev	valuation	No								
			Develop Evaluation Plan	Yes								
			Manage Outcome Measurement	Yes								
			Manage Provider-Specific Performance	Yes								
			Manage Performance Data Collected Via Other Processes	Yes								
			Collect Additional Data	Yes								
			Analyze and Interpret Data	Yes								

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care
			Develop Performance Measurement	Yes								
			Reporting Requirements	Mari								
			Develop Evaluation Report	Yes								
			Develop rederar and state reports	Tes								
		Business Intellig	gence	No								
			Data Integration	Yes								
	Due en en Mari		Reporting	Yes								
	Program Ivian	agement Brogram Bolicy	and Inter Program Coordination	NO								
		Program Policy	Manage Program Policy	Voc								
			Manage Relationshins Retween Programs	Ves								
			Wanage Relationships between Frograms	163								
			Manage Program Information	Yes								
			Manage Reference Information	Yes								
			Manage Rate Settings	Yes								
			Manage Performance Measures	Yes								
			Manage Allowances and Disallowances Process	Yes								
			Recognize Accreditation, Credentials, and	Yes								
			Manage Eligibility Criteria	Yes								
			Manage Program Rules	Yes								
			Create Block Grant Application	Yes								
			Perform Block Grant Reviews	Yes								
			Manage Block Grants	Yes								
		Program / Servi	ice Forecasting and Risk Assessment	No								
			Forecast and Plan Services	Yes								
			Manage Program Risks	Yes								
	Business Rela	tionships		No								
		Relationships /	Interoperability Management	No								
			Establish Business Relationship	Yes								
			Manage Information Sharing with Juvenile Justice	Yes								
			Manage Information Sharing with State	Yes								
			Manage Information Sharing with	Yes								
			Department of Education	105								
			Manage Information Sharing with Mental Health and Substance Abuse	Yes								
			Manage Information Sharing with Managed	Yes								
-			Care Organization Manage Information Sharing with	Yes								
			Individual Service Providers	Vez								
			Security Administration	Yes								
			Manage Information Sharing with MN Department of Revenue	Yes								

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care
			Manage Information Sharing with Internal Revenue Service	Yes								
			Manage Information Sharing with MN Department of Health	Yes								
			Manage Information Sharing with the MN Department of Corrections	Yes								
			Manage Information Sharing with Other State Entities	Yes								
			Manage Information Sharing with Law Enforcement	Yes								
	Policy & Over	rsight		No								
	_	Governance &	Management Support	No								
			Policy Management	Yes								
			Manage Communication of Policy	Yes								
			Manage Improvement of Policy	Yes								
-		Bocourco mono	initialize Privacy and Security Policies	No								
-		Resource mana	Manage Assets	Vos								
			Manage Human Resources	Ves								
			Manage Procurement	Yes								
			Manage Information	Yes								
			Manage Knowledge	Yes								
	Plan Manage	ment		No								
	, j	Plan Administra	ation	No								
			Develop Agency Goals and Objectives	No								
			Maintain Program Policy	Yes								
			Maintain State Plan	Yes								
		Health Plan Adı	ministration	No								
			Manage Health Plan Information	Yes								
			Manage Performance Measures	Yes								
		Health Benefits	Administration	No								
			Manage Health Benefit Information	Yes								
			Manage Reference Information	Yes								
			Manage Rate Setting	Yes								
		Plan Managem	ent Rules Management	No								
			Manage Rules	Yes								

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
DHS Distribut	ted Service De	livery		No									
	DHS Distribut	ed Client Manag	gement	No									
		DHS Distributed	Client Information Management	No									
			Preliminary Identification of Client Needs	Yes									
			Manage Client Triage	Yes									
			Process Referrals	Yes									
			Manage Client Intake	Yes									
			Establish Client Account	Yes									
			Manage Shared Client Information	Yes									
			Establish Agency Client Information	Yes									
		DH3 DISTIBUTED	Manage Client Communications	Voc									
			Perform Population and Client Outreach	Yes									
			Ferform Fopulation and Client Outleach	163									
	DHS Distribut	ed Eligibility and	d Enrollment Management	No									
		DHS Distributed	l Client Enrollment	Yes									
			Screening and Assessment	Yes									
			Manage Eligibility Determination	Yes									
			Assign Provider for Eligible Service(s)	Yes									
			Enroll Client	Yes									
	ļ		Disenroll Client	Yes									
	DUC Distaile		Inquire Client Enrollment	Yes									
	DHS Distribut	ed Service Iviana	agement	NO									
		DHS Distributed	Establish Case	Voc									
			Find Case Information	Ves									
			Manage Case Information	Yes									
			Develop Client-Based Service Plan (Goals.	Yes									
			Methods and Outcomes)										
			Conduct Investigation	No									
			Service Arrangement, Referral, Placement	Yes									
		DHS Distributed	Approval Determination	No									
			Manage Referrals	Yes									
			Manage Service/Program Waiting List	Yes									
			Approve Service	Yes									
			Approve Service Plan	Yes									
			Manage and Monitor Client and Service	Yes									
			Review and Update Service Plan	Yes									
			Review and Determine Compliance with	Yes									
			Service Plan										
			Cross-Agency Case Coordination	Yes									
			Manage Transfer of Case	Yes									
			Liose Case	Yes									
			Reopen Case	Yes									
			for Case	Yes									
		<b>DHS</b> Distributed	Service Management Support	No									
			Manage Client (Complaint) Grievance	Yes									

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3) Manage Client Appeal, Hearing, and Lawsuit	ad Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
	DHS Distribut	ed Provider Ma	nagement	No									
		DHS Distributed	Provider Enrollment	No									
			Determine Provider Eligibility	Yes									
			Register Provider	Yes									
			Deactivate Provider Registration	Yes									
			Reactive Provider Registration	Yes									
			Disenroll Provider	Yes									
			Enroll Provider	Yes									
			Inquire Provider Enrollment	Yes									
			Manage and Issue Provider Licensing	Yes									
			Manage and Issue Provider Certifications	Yes									
			Monitoring and Oversight of Provider License/Credentials/Certifications Changes	Yes									
			Monitor Provider Compliance	Yes									
		DHS Distributed	Provider Information Management	No									
			Establish Provider Information	Yes									
			Manage Provider Data	Yes									
			Find Provider Information	Yes									
			Manage Contract Providers	Yes									
			Manage Counties and Tribes as Providers	Yes									
		DHS Distributed	Provider Support	No									
			Manage Provider Communications and Notifications	Yes									
			Manage Provider Complaints, Grievance,	Yes									
			Perform Population and Provider Outreach	Yes									
			Provide Provider Education and Training	No									
		DHS Distributed	Provider Quality Assurance	No									
		2.10 2.Stributet	Develop Provider Quality Measures	Yes									
			Track Provider Quality Measures	Yes									
	DHS Distribut	ed Contractor M	lanagement	Yes									
		DHS Distributed	Contractor Information Management	Yes									
			Manage Contractor Information	Yes									
			Inquire Contractor Information	Yes									
		DHS Distributed	Contractor Support	Yes									
			Manage Contractor Communication	Yes									
			Perform Contractor Outreach	Yes									
			Manage Contractor Grievance and Appeal	Yes									
		DHS Distributor	Contract Management	Vos									
		ono pistributet	Produce Solicitation	Yes									
			Advertise Solicitation	Yes					l				
			Evaluate Proposal and Award Contract	Yes					İ		1		

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
-				res									
			Manage MOUs	Yes									
			Manage Professional Service Agreements	Yes									
			Manage Sponsorships	Yes									
			Manage Allocations	Yes									
			Process Award Letters	Yes									
			Update/Revise MOUs and Professional	Yes									
			Service Agreements										
			Close Out Contract	Yes									
	DHS Distribut	ted Operations N	/lanagement	Yes									
		DHS Distributed	Payment and Reporting	Yes									
			Manage Electronic Billing Capability	Yes									
			Manage Electronic Notices	Yes									
			Manage Client Payments	Yes									
			Generate Remittance Advice	Yes									
			Inquire Payment Status	Yes									
			Generate Annual Benefits Notice	Yes									
			Prepare Provider Payment Report	Yes									
			Manage and Prepare Local Reporting Data	Yes									
			Manage and Prepare State-level Reporting	Yes									
			Data										
		DHS Distributed	Funds Collection and Disbursement	Yes									
			Manage Funds Collection from Child	Yes									
			Collect EBT Replacement Charges	Yes									
			Manage Employers/Payors-of Funds	Yes									
			Manage Distribution of Funds	Yes									
			Manage Payments to Child Care Providers	Yes									
		DHS Distributed	Funds Recovery Management	Yes									
			Establish Overpayment	Yes									
			Establish Overpayment Billing Process	Yes									
			Manage Notifications of Overpayment	Yes									
			Manage Recoupments	Yes									
			Transfer Liability	Yes									
			Track Overpayment Actions and Activities	Yes									
			Determine and Manage Actions based on Failure to Comply with Overpayment	Yes									
			Manage Benefit Reduction or Recovery	Yes									
			Report on Overpayment Claims	Yes									
			Modify Policy and Procedure	No									
		DHS Distributed	Service Coordination Support	Yes									
			Manage Caseworker Information	Yes									
			Manage Caseworker-Team Relationships	Yes									
			Manage Caseworker-Function Relationship	Yes									
			Track Caseworker Training and Certifications	Yes									

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3) Track Caseworker Performance	ත් Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
			Manage Case Workload	Voc									
			Manage Workflow	Voc									
		DHS Distributer		Vos									
		Distributed	Manage User Access Privileges	Yes									
			Track User Access to Information	Yes									
			Manage Data Freeze Requirements	Yes									
			Audit Access to Information	Yes									
			Manage HIE Access Bules	Yes									
			Manage Access to External Parties	Yes									
			Manage Agreements with External Parties	Yes									
		DHS Distributed	Operational Reporting	Yes									
			Operational Reports Management	Yes									
	DHS Distribut	ed Medicaid Cla	ims Management	No									
		DHS Distributed	d Claims Management	No									
			Process Claim	Yes									
			Process Encounter	Yes									
			Calculate Spend-Down Amount	Yes									
			Submit Electronic Attachment	Yes									
			Apply Mass Adjustment	Yes									
			Provide Support for Federal Claims	Yes									
	DHS Distribut	ted Communicat	ions, Education and Training	Yes									
		DHS Distributed	Communications Rules Management	Yes									
			Manage Outreach Rules	Yes									
			Manage Communication Rules	Yes									
		<b>DHS</b> Distributed	d Outreach	Yes									
			Perform Outreach	Yes									
			Manage Public Reporting	Yes									
		DHS Distributed	Notifications	Yes									
			Issue Notifications	Yes									
		DHS Distributed	Education & Training	Yes									
			Share Inter-Agency Information and Training	Yes									
			Develop Training for External Participants and Community Partners	Yes									
			Develop Curriculum	Yes									
			Deliver Training Events	Yes									
			Deliver Tools & Technologies	Yes									
			Manage Resource Libraries	Yes									
			Register Participants	Yes									
			Manage ADA Compliance	Yes									
			Manage Training Evaluations	Yes									
			Provide Certifications	Yes									
DHS Direct Se	ervice Deliver	/		No									
	DHS Direct Se	ervice Client Mai	nagement	No									
		DHS Direct Serv	rice Client Information Management	Yes									
			Preliminary Identification of Client Needs	Yes									
			Manage Client Triage	Yes									
			Process Referrals	Yes									

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3) Manage Client Intake	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
			Establish Client Account	Voc									
			Manage Shared Client Information	Vos									
			Establish Agency Client Information	Voc									
		DHS Direct Son	ico Client Support	Vos									
		Dito Direct Serv	Manage Client Communications	Yes									
	DHS Direct Se	ervices Enrollme	nt Management	No									
	Dito Direct Se	DHS Direct Serv	ice Client Enrollment	No									
		Dris Direct Serv	Screening and Assessment	Yes									
	DHS Direct Se	ervice Managem	ent	No									
	2110 Direct Se	DHS Direct Serve	ice Management Support	Yes									
		2.10 Direct Selv	Manage Client (Complaint) Grievance	Yes									
			Manage Client Appeal Hearing and Lawsuit	Yes									
			inanage ellene ripped, nearing, and tawsuit	103									
		DHS Direct Serv	ice Management	No									
			Manage Pre-Admission Process	Yes									
			Admit Client/Patient	Yes									
			Manage Treatment	Yes									
			Manage Treatment Room/Board	Yes									
			Develop Discharge Planning	Yes									
			Discharge Client /Patient	Yes									
			Manage Prevention	Yes									
			Manage Administrative and Support	Yes									
			Functions										
			Manage Billing to Counties	Yes									
	DHS Direct Se	ervice Provider N	lanagement	NO									
		DHS Direct Serv	ice Provider Enrollment	No									
			Determine Provider Eligibility	Yes									
			Register Provider	Yes									
			Deactivate Provider Registration	Yes									
			Neactive Provider Registration	Yes									
			Diseniroli Provider	Yes									
			Enroll Provider	Yes									
			Manage and Issue Drovider Licensing	Ves									
			Manage and Issue Provider Licensing	Yes									
			Manage and issue Provider Certifications	res									
			Monitoring and Oversight of Provider	Yes									
			License/Credentials/Certifications Change	Vcc									
			Manage Provider Compliance	Yes									
			Manage Provider Corrective Action Plan	Yes									
			Manage Provider Citations	Yes									
			Manage Provider Sanctions	Yes									
			Manage Coordination of Communication To	Yes									
			External Parties of Provider Citations and										
			Sanctions										
		DHS Direct Serv	ice Provider Information Management	No									
			Establish Provider Information	Yes									
			Manage Provider Data	Yes									

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
	· · · · · · · · · · · · · · · · · · ·		Manage Contract Providers	Yes									
			Manage Counties as Providers	Ves									
		DHS Direct Serv		No									
		Bris Birett Sert	Manage Provider Communications and Notifications	Yes									
			Manage Provider Complaints, Grievance, and Appeal	Yes									
			Perform Population and Provider Outreach	Yes									
			Provide Provider Education and Training	No									
		DHS Direct Serv	rice Provider Quality Assurance	No									
			Develop Provider Quality Measures	Yes									
			Track Provider Quality Measures	Yes									
	DHS Direct Se	ervice Contracto	r Management	Yes									
		DHS Direct Serv	ice Contractor Information Management	Yes									
			Manage Contractor Information	Yes									
			Inquire Contractor Information	Yes									
		DHS Direct Serv	rice Contractor Support	Yes									
			Manage Contractor Communication	Yes									
			Manage Contractor Grievance and Appeal	Yes									
		DHS Direct Sen	ice Contract Management	Vos									
		Dito Direct Serv	Produce Solicitation	Yes									
			Advertise Solicitation	Yes									
			Evaluate Proposal and Award Contract	Yes									
			Manage Contracts	Yes									
			Manage MOUs	Yes									
			Manage Professional Service Agreements	Yes									
			Manage Sponsorships	Yes									
			Manage Allocations	Yes									
			Process Award Letters	Yes									
			Update/Revise MOUs and Professional	Yes									
			Service Agreements	N/s s									
	DHE Direct Fo	muico Oporation	close out contract	Yes									
	DHS Direct Se	DHS Direct Sen	vice Coordination Support	Ves									
		Dito Direct Serie	Manage Caseworker Information	Yes									
			Manage Caseworker-Team Relationships	Yes									
			Manage Caseworker-Function Relationship	Yes									
			Track Caseworker Training and Certifications	Yes									
			Track Caseworker Performance	Yes									
			Manage Case Workload	Yes									
			Manage Service/Program Waiting List	Yes									
			Manage Workflow	Yes									

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
			Respond to Federal Program Performance	Yes									
			Audit Produce AECARS Reports	Voc									
-		DHS Direct Serve	rice Information Services Management	No									
		Dilo Direct Serv	Manage User Access Privileges	Yes									
			Track User Access to Information	Yes									
			Manage Data Freeze Requirements	Yes									
			Audit Access to Information	Yes									
			Manage HIE Access Rules	Yes									
			Manage Access to External Parties	Yes									
			Manage Agreements with External Parties	Yes									
-		DHS Direct Serv	ice Operational Reporting	No									
			Operational Reports Management	Yes									
	DHS Direct Se	ervice Communio	cations, Education and Training	No									
		DHS Direct Serv	ice Communications Rules Management	No									
			Manage Outreach Rules	Yes									
			Manage Communication Rules	Yes									
		DHS Direct Serv	ice Outreach	No									
			Perform Outreach	Yes									
			Manage Public Reporting	Yes									
		DHS Direct Serv	ice Notifications	No									
			Issue Notifications	Yes									
		DHS Direct Serv	ice Education & Training	No									
			Share Inter-Agency Information and	Yes									
			Training										
			Develop Training for External Participants	Yes									
			and Community Partners										
			Develop Curriculum	Yes									
			Deliver Training Events	Yes									
			Deliver Tools & Technologies	Yes									
			Manage Resource Libraries	Yes									
			Register Participants	Yes									
			Manage ADA Compliance	Yes									
			Manage Training Evaluations	Yes									
			Provide Certifications	Yes									
DHS Distribu	ted Support So	ervices		No									
	Local Finance	s Management		No									
		Local Accounts	Receivable Management	No									
			Ivianage Provider Recoupment	Yes									
			Ivianage TPL Recovery	Yes									
			Manage Estate Recovery	Yes									
			Manage Cret Settlement	Yes									
			Manage Cost Settlement	Vec									
			ivianage Accounts Receivable Information	Tes									
			Manage Accounts Receivable Funds	Yes									
			Prepare Member Premium Invoice	Yes									
		Local Accounts	Payable Management	No									
			Manage EBT Transactions	Yes									
			Manage Contractor Payments	Yes									

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
			Manage Payments to Parents	Yes									
			Manage Client Financial Participation	Yes									
			Manage Incentive Payment	Yes									
			Manage Local-Level Accounts Payable Information	Yes									
			Manage Local-Level Accounts Payable Disbursement	Yes									
			Manage 1099	Yes									
		Local Fiscal Mar	nagement	No									
			Formulate Budget	Yes									
			Manage Budget Information	Yes									
			Manage Fund	Yes									
			Generate Financial Report	Yes									
			Provide Financial Data from Source System	Yes									
		Local Grants Ma	anagement	No									
			Manage Grants Allocated to Local Entities by the State	Yes									
<b>DHS Support</b>	Services			No									
	DHS Finances	Management		No									
		DHS Accounts R	eceivable Management	No									
			Manage Provider Recoupment	Yes									
			Manage Estate Recovery	Yes									
			Manage Drug Rebate	Yes									
			Manage Cost Settlement	Yes									
			Manage Accounts Receivable Information	Yes									
			Manage Accounts Receivable Funds	Yes									
			Prepare Member Premium Invoice	Yes									
		<b>DHS Accounts P</b>	ayable Management	No									
			Manage Payments to other Agencies and Counties	Yes									
			Manage Incentive Payment	Yes									
			Manage State-Level Accounts Payable Information	Yes									
			Manage State-Level Accounts Payable Disbursement	Yes									
			Manage 1099	Yes									
		DHS Fiscal Man	agement	No									
			Formulate Budget	Yes									
			Manage Budget Information	Yes									
			Manage Fund	Yes									
			Generate Financial Report	Yes									
			Provide Financial Data from Source System	Yes									
		DHS Grants Ma	nagement	No									
			Manage Grants Allocated to the State by the Federal Government	Yes									
DHS Program	Governance	and Monitoring		No									
	Performance	Management		No									
		Compliance Ma	nagement	No									

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
			Design Surveillance Strategy and Method	Yes									
				X									
			Identify Employee Anomaly	Yes									
				Yes									
			Identify Utilization Anomalies	Yes									
			Identify Provider Anomalies	Yes									
			Establish Compliance Risks	Yes									
			Investigative Case	Yes									
			Manage Compliance Incident Information	Yes									
			Monitor and Manage Investigative Data Security	Yes									
			Determine Action to Resolve Compliance Incident	Yes									
			Close Compliance Incident/Investigative Case	Yes									
		Performance Ev	valuation	No									
			Develop Evaluation Plan	Yes									
			Manage Outcome Measurement	Yes									
			Manage Provider-Specific Performance	Yes									
			Manage Performance Data Collected Via Other Processes	Yes									
			Collect Additional Data	Yes									
			Analyze and Interpret Data	Yes									
			Develop Performance Measurement	Yes									
			Reporting Requirements										
			Develop Evaluation Report	Yes									
			Develop Federal and State Reports	Yes									
		Business Intelli	tonco	No									
		business intellig	Data Integration	Yes									
			Reporting	Yes									
	Program Mar	agement		No									
	ogrann widt	Program Policy	and Inter-Program Coordination	No									
			Manage Program Policy	Yes									
			Manage Relationships Between Programs	Yes									
			Manage Program Information	Yes									
			Manage Reference Information	Yes									
			Manage Rate Settings	Yes									
			Manage Performance Measures	Yes									
			Manage Allowances and Disallowances	Yes									
			Recognize Accreditation, Credentials, and Ratings	Yes									
			Manage Eligibility Criteria	Yes									
			Manage Program Rules	Yes									
			Create Block Grant Application	Yes									
			Perform Block Grant Reviews	Yes									
				-									

Image: Control provides are provided and search of the section of the sectin of the section of the section of the section of the section of	Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT
Image in provide forekating and Rek Association and State (State Control of Contro of Contro of Contro of Control of Control of Control of Control o				Manage Block Grants	Yes									
Image Program Rols       Mail       Image Program Rols       Image Pro			Program / Serv	ice Forecasting and Risk Assessment	No									
Builers Relationship     Monge Informations Sharing with Mangement     No     Image I				Forecast and Plan Services	Yes									
Business Relationships       Interoperability Management       No       Image Management Selection in provide selection provide selection in provide selection pr				Manage Program Risks	Yes									
Implement       No       Implement       No       Implement       No       Implement       Implement </th <th></th> <th>Business Rela</th> <th>tionships</th> <th></th> <th>No</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>		Business Rela	tionships		No									
Image Information Baring with JuxePillor       Yes       Image Information Sharing with JuxePillor       Yes       Image Information Sharing with State       Yes       Image Information Sharing with State       Yes       Image Information Sharing with State       Yes       Image Information Sharing with State			Relationships /	Interoperability Management	No									
Image information sharing with State       Yes       Image information sharing with Minaged       Yes<		-	-	Establish Business Relationship	Yes									
Image Information Sharing with State With Stat				Manage Information Sharing with Juvenile Justice	Yes									
Image information Sharing with Meral Mera				Manage Information Sharing with State Vital Statistics	Yes									
Image Information Sharing with Managed Large Organization       Yes       Image Information Sharing with Managed Large Organization       Yes       Image Information Sharing with Managed Large Organization       Yes       Image Information Sharing with Individual Service Providers Sharing with Social Security Administration       Yes       Image Information Sharing with Individual Service Providers Sharing with Social Security Administration       Yes       Image Information Sharing with Individual Service Providers Sharing with Social Security Administration       Yes       Image Information Sharing with Social Security Administration       Yes       Image Information Sharing with Individual Service Providers Sharing with Individual Security Administration       Yes       Image Information Sharing With Individual Security Administration       Yes <th></th> <th></th> <th></th> <th>Manage Information Sharing with Department of Education</th> <th>Yes</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>				Manage Information Sharing with Department of Education	Yes									
Image Information Sharing with Managed Yes       Image Information Sharing with Managed Yes       Image Information Sharing with Individual Yes       Image Information Sharing with Individual Yes       Image Information Sharing with Individual Yes       Image Information Sharing with Social Security Administration       Yes       Image Information Sharing with Nocial Security Administration Sharing with Nocie Security Administration Sharing with Nocie Security Administration Sharing with Nocie Security Administration Sharing with Law Reverse Security Administration Sharing with Law Reverse Security Administration Sharing with Law Reverse Security Administration Security Policies Security P				Manage Information Sharing with Mental Health and Substance Abuse	Yes									
Image Information Sharing with Individual Service Providers       Yes       Image Information Sharing with Social Security Administration       Yes       Image Information Sharing with NW       Yes       Image Information Sharing with Internal Revenue Service       Yes       Image Information Sharing with Internal Revenue Service       Yes       Image Information Sharing with Internal Revenue Service       Yes       Image Information Sharing with NW       Yes       Image Information Sharing with Other State Entities       Yes       Image Information Sharing with Law       Image Information Sharing with Law       Yes       Image Information Sharing with Law       Image Information Sharing with Law       Yes       Image Information Sharing with Law       Image Information Sharing with Law       Yes       Image Information Sharing with Law       Image Inf				Manage Information Sharing with Managed Care Organization	Yes									
Manage Information Sharing with Social Security Administration       Yes       Image Information Sharing with MN Department of Revenue       Yes       Image Information Sharing with MN Revenue Service       Yes       Image Information Sharing with Internal Revenue Service       Image Information Sharing with MN Department of Health       Yes       Image Information Sharing with MN Department of Health       Yes       Image Information Sharing with MN Department of Flexith       Yes       Image Information Sharing with MN Department of Corrections       Yes       Image Information Sharing with MN Department of Corrections       Yes       Image Information Sharing with Other State Entities       Yes       Image Information Sharing with Adv Enforcement       Yes       <				Manage Information Sharing with Individual Service Providers	Yes									
Secury Privacy and Security Policies       Yes       Yes       Image Information Sharing with MN       Yes       Image Information Sharing with Internal Revenue Service       Yes       Image Information Sharing with MN       Yes <td< th=""><th></th><th></th><th></th><th>Manage Information Sharing with Social</th><th>Yes</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>				Manage Information Sharing with Social	Yes									
Manage Information Sharing with Internal Revenue Service       Yes       Image Information Sharing with Internal Revenue Service       Yes       Image Information Sharing with NN Department of Health       Yes       Image Information Sharing with the NN Department of Corrections       Yes       Image Information Sharing with the NN Department of Corrections       Yes       Image Information Sharing with the NN Department of Corrections       Yes       Image Information Sharing with the NN Enforcement       Yes       Image Information Sharing with Law Enforcement       Yes       Image Information Sharing With Law Enforcement of Policy       Yes       Image Information Sharing With Law Enforcement       Yes       Image Information Sharing With Law Enforcement <td< th=""><th></th><th></th><th></th><th>Manage Information Sharing with MN Department of Revenue</th><th>Yes</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>				Manage Information Sharing with MN Department of Revenue	Yes									
Manage Information Sharing with MN Department of Health       Yes       Image Information Sharing with MN Department of Corrections       Yes       Image Information Sharing with Other State Entities       Yes       Image Information Sharing with Law Enforcement       Yes       Image Information Sharing with Caw       Yes       Image Information Sharing with Caw       Image Information Sharing with Caw       Image Information Sharing with Caw       Yes       Image Information Sharing with Caw				Manage Information Sharing with Internal Revenue Service	Yes									
Manage Information Sharing with the MN Department of Corrections       Yes       See       <				Manage Information Sharing with MN Department of Health	Yes									
Image Information Sharing with Other State Entities       Yes       Image Information Sharing with Law Enforcement       Yes<				Manage Information Sharing with the MN Department of Corrections	Yes									
Image Information Sharing with Law EnforcementYesImage Information Sharing with Law Enf				Manage Information Sharing with Other State Entities	Yes									
Policy & Oversight       No       Image of the second seco				Manage Information Sharing with Law Enforcement	Yes									
Governance & Management Support       No       Image       <		Policy & Over	rsight		No									
Image InformationYesImage Informatio			Governance & I	Management Support	No									
Image Communication of Policy       Yes       Image Improvement of Policy </th <th></th> <th></th> <th></th> <th>Policy Management</th> <th>Yes</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>				Policy Management	Yes									
Image Improvement of PolicyYesImage Improvement of PolicyImage Improvement of PolicyYesImage Improvement of PolicyImage Improve				Manage Communication of Policy	Yes									
Manage Privacy and Security Policies       Yes       Mean				Manage Improvement of Policy	Yes									
Resource management       No       O				Manage Privacy and Security Policies	Yes									
Manage Assets       Yes       Manage Manage Assets       Yes       Manage Manage Manage Muman Resources       Yes       Manage Manage Muman Resources       Yes       Manage Muman Mum			Resource mana	gement	No									
Image Human Resources       Yes       Image Human Resources				Manage Assets	Yes									
Manage Procurement     Yes     General     General     General     General       Manage Information     Yes     General     General     General     General				Manage Human Resources	Yes									
Manage Information Yes And				Manage Procurement	Yes									
				Manage Information	Yes									
Manage Knowledge Yes S S S S S S S S S S S S S S S S S S S				Manage Knowledge	Yes									
Plan Wanggement NO		Plan Manage	Diam Administra		NO									
NO N			Plan Administra	Develop Agency Cools and Objectives	NO									
Level page y das and objectives in the second se				Maintain Program Policy	Voc									
Maintain State Plan Yes				Maintain State Plan	Yes									
Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Warehouse	MMIS/ Minnesota Care	SMRT	
---------------------	-----------------------------------	--	--------------------------------	---------------------	-------	------	------	-------	-----	-----------	-------------------	----------------------------	------	
	Health Plan Administration			No										
			Manage Health Plan Information	Yes										
			Manage Performance Measures	Yes										
		Health Benefits	Administration	No										
	Manage Health Benefit Information			Yes										
	Manage Reference Information		Yes											
	Manage Rate Setting		Yes											
	Plan Management Rules Management			No										
			Manage Rules	Yes										

Business	Business Area (Level	Business Function Group		tomation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	Au	High Value	Value	Cúram
<b>DHS</b> Distribut	ted Service De	livery		No			
	DHS Distribut	ed Client Manag	ement	No			
		DHS Distributed	Client Information Management	No			
			Preliminary Identification of Client Needs	Yes			
			Manage Client Triage	Yes			
			Process Referrals	Yes			
			Manage Client Intake	Yes			
			Establish Client Account	Yes			
			Manage Shared Client Information	Yes			
			Establish Agency Client Information	Yes			
		DHS Distributed	Client Support	Yes			
			Manage Client Communications	Yes			
			Perform Population and Client Outreach	Yes			
	<b>DHS</b> Distribut	ed Eligibility and	Enrollment Management	No			
		<b>DHS</b> Distributed	Client Enrollment	Yes			
			Screening and Assessment	Yes			
			Manage Eligibility Determination	Yes			
			Assign Provider for Eligible Service(s)	Yes			
			Enroll Client	Yes			
			Disenroll Client	Yes			
			Inquire Client Enrollment	Yes			
	DHS Distribut	ed Service Mana	gement	No			
		<b>DHS</b> Distributed	Core Service Management	Yes			
			Establish Case	Yes			
			Find Case Information	Yes			
			Manage Case Information	Yes			

Business	Business Area (Level	Business Function Group		itomation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	Αu	High Value	Value	Cúram
			Develop Client-Based Service Plan (Goals, Methods and Outcomes)	Yes			
			Conduct Investigation	No			
			Service Arrangement, Referral, Placement	Yes			
		DHS Distributed	Approval Determination	No			
			Manage Referrals	Yes			
			Manage Service/Program Waiting List	Yes			
			Approve Service	Yes			
			Approve Service Plan	Yes			
			Manage and Monitor Client and Service Plan Outcomes	Yes			
			Review and Update Service Plan	Yes			
			Review and Determine Compliance with Service Plan	Yes			
			Cross-Agency Case Coordination	Yes			
			Manage Transfer of Case	Yes			
			Close Case	Yes			
			Reopen Case	Yes			
			Coordinate and Manage Records Retention for Case	Yes			
		DHS Distributed	Service Management Support	No			
			Manage Client (Complaint) Grievance	Yes			
			Manage Client Appeal, Hearing, and Lawsuit	Yes			
	DHS Distribut	ed Provider Mar	agement	No			
		DHS Distributed	Provider Enrollment	No			
			Determine Provider Eligibility	Yes			

Business	Business Area (Level	Business Function Group		itomation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	٩٢	High Value	Value	Cúram
			Register Provider	Yes			
			Deactivate Provider Registration	Yes			
			Reactive Provider Registration	Yes			
			Disenroll Provider	Yes			
			Enroll Provider	Yes			
			Inquire Provider Enrollment	Yes			
			Manage and Issue Provider Licensing	Yes			
			Manage and Issue Provider Certifications	Yes			
			Monitoring and Oversight of Provider	Yes			
			License/Credentials/Certifications Changes				
			Monitor Provider Compliance	Yes			
		DHS Distributed	Provider Information Management	No			
			Establish Provider Information	Yes			
			Manage Provider Data	Yes			
			Find Provider Information	Yes			
			Manage Contract Providers	Yes			
			Manage Counties and Tribes as Providers	Yes			
		DHS Distributed	Provider Support	No			
			Manage Provider Communications and Notifications	Yes			
			Manage Provider Complaints, Grievance, and Appeal	Yes			
			Perform Population and Provider Outreach	Yes			

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	County Users - High Value	System Owners - High Value	Cúram
			Provide Provider Education and Training	NO			
		<b>DHS</b> Distributed	Provider Quality Assurance	No			
			Develop Provider Quality Measures	Yes			
			Track Provider Quality Measures	Yes			
	DHS Distribut	ed Contractor M	anagement	Yes			
		<b>DHS</b> Distributed	Contractor Information Management	Yes			
			Manage Contractor Information	Yes			
			Inquire Contractor Information	Yes			
		<b>DHS</b> Distributed	Contractor Support	Yes			
			Manage Contractor Communication	Yes			
			Perform Contractor Outreach	Yes			
			Manage Contractor Grievance and Appeal	Yes			
		<b>DHS</b> Distributed	Contract Management	Yes			
			Produce Solicitation	Yes			
			Advertise Solicitation	Yes			
			Evaluate Proposal and Award Contract	Yes			
			Manage Contracts	Yes			
			Manage MOUs	Yes			
			Manage Professional Service Agreements	Yes			
			Manage Sponsorships	Yes			
			Manage Allocations	Yes			
			Process Award Letters	Yes			
			Update/Revise MOUs and Professional	Yes			
			Service Agreements				

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	County Users - High Value	System Owners - High Value	Cúram
			Close Out Contract	Yes			
	<b>DHS</b> Distribut	ed Operations N	lanagement	Yes			
		<b>DHS</b> Distributed	Payment and Reporting	Yes			
			Manage Electronic Billing Capability	Yes			
			Manage Electronic Notices	Yes			
			Manage Client Payments	Yes			
			Generate Remittance Advice	Yes			
			Inquire Payment Status	Yes			
			Generate Annual Benefits Notice	Yes			
			Prepare Provider Payment Report	Yes			
			Manage and Prepare Local Reporting Data	Yes			
			Manage and Prepare State-level Reporting Data	Yes			
		<b>DHS</b> Distributed	Funds Collection and Disbursement	Yes			
			Manage Funds Collection from Child Support	Yes			
			Collect EBT Replacement Charges	Yes			
			Manage Employers/Payors-of Funds	Yes			
			Manage Distribution of Funds	Yes			
			Manage Payments to Child Care Providers	Yes			
		DHS Distributed	Funds Recovery Management	Yes			
			Establish Overpayment	Yes			
			Establish Overpayment Billing Process	Yes			
			Manage Notifications of Overpayment	Yes			
			Manage Recoupments	Yes			
			Transfer Liability	Yes			

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	County Users - High Value	System Owners - High Value	Cúram
			Track Overpayment Actions and Activities	Yes			
			Determine and Manage Actions based on Failure to Comply with Overpayment	Yes			
			Manage Benefit Reduction or Recovery	Yes			
			Report on Overpayment Claims	Yes			
			Modify Policy and Procedure	No			
		DHS Distributed	Service Coordination Support	Yes			
			Manage Caseworker Information	Yes			
			Manage Caseworker-Team Relationships	Yes			
			Manage Caseworker-Function Relationship	Yes			
			Track Caseworker Training and Certifications	Yes			
			Track Caseworker Performance	Yes			
			Manage Case Workload	Yes			
			Manage Workflow	Yes			
		DHS Distributed	Information Services Management	Yes			
			Manage User Access Privileges	Yes			
			Track User Access to Information	Yes			
			Manage Data Freeze Requirements	Yes			
			Audit Access to Information	Yes			
			Manage HIE Access Rules	Yes			
			Manage Access to External Parties	Yes			
			Manage Agreements with External Parties	Yes			

Business	Business Area (Level	Business Function Group		omation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	Aut	High Value	Value	Cúram
		DHS Distributed	Operational Reporting	Yes			
			Operational Reports Management	Yes			
	DHS Distribut	ed Medicaid Clai	ms Management	No			
		<b>DHS</b> Distributed	Claims Management	No			
			Process Claim	Yes			
			Process Encounter	Yes			
			Calculate Spend-Down Amount	Yes			
			Submit Electronic Attachment	Yes			
			Apply Mass Adjustment	Yes			
			Provide Support for Federal Claims	Yes			
	<b>DHS</b> Distribut	ed Communicati	ons, Education and Training	Yes			
		<b>DHS</b> Distributed	<b>Communications Rules Management</b>	Yes			
			Manage Outreach Rules	Yes			
			Manage Communication Rules	Yes			
		<b>DHS</b> Distributed	Outreach	Yes			
			Perform Outreach	Yes			
			Manage Public Reporting	Yes			
		<b>DHS</b> Distributed	Notifications	Yes			
			Issue Notifications	Yes			
		<b>DHS</b> Distributed	Education & Training	Yes			
			Share Inter-Agency Information and Training	Yes			
			Develop Training for External Participants and Community Partners	Yes			
			Develop Curriculum	Yes			
			Deliver Training Events	Yes			
			Deliver Tools & Technologies	Yes			

Business	Business Area (Level 1)	Business Function Group	Business Function (Level 3)	vutomation Required	County Users - High Value	System Owners - High Value	Cúram
Context			Manage Resource Libraries	Ves	ingh value	Value	Caram
			Register Participants	Yes			
			Manage ADA Compliance	Yes			
			Manage Training Evaluations	Yes			
			Provide Certifications	Yes			
DHS Direct Se	ervice Delivery	,		No			
	DHS Direct Se	ervice Client Man	agement	No			
		<b>DHS Direct Serv</b>	ice Client Information Management	Yes			
			Preliminary Identification of Client Needs	Yes			
			Manage Client Triage	Yes			
			Process Referrals	Yes			
			Manage Client Intake	Yes			
			Establish Client Account	Yes			
			Manage Shared Client Information	Yes			
			Establish Agency Client Information	Yes			
		DHS Direct Serv	ice Client Support	Yes			
			Manage Client Communications	Yes			
	DHS Direct Se	rvices Enrollmer	t Management	No			
		DHS Direct Serv	ice Client Enrollment	No			
			Screening and Assessment	Yes			
	DHS Direct Se	ervice Manageme	ent	No			
		DHS Direct Serv	ice Management Support	Yes			
			Manage Client (Complaint) Grievance	Yes			
			Manage Client Appeal, Hearing, and Lawsuit	Yes			
		<b>DHS Direct Serv</b>	ice Management	No			
			Manage Pre-Admission Process	Yes			

Business	Business Area (Level	Business Function Group		tomation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	Au	High Value	Value	Cúram
			Admit Client/Patient	Yes			
			Manage Treatment	Yes			
			Manage Treatment Room/Board	Yes			
			Develop Discharge Planning	Yes			
			Discharge Client /Patient	Yes			
			Manage Prevention	Yes			
			Manage Administrative and Support Functions	Yes			
			Manage Billing to Counties	Yes			
	DHS Direct Se	rvice Provider M	anagement	No			
		<b>DHS Direct Serv</b>	ice Provider Enrollment	No			
			Determine Provider Eligibility	Yes			
			Register Provider	Yes			
			Deactivate Provider Registration	Yes			
			Reactive Provider Registration	Yes			
			Disenroll Provider	Yes			
			Enroll Provider	Yes			
			Inquire Provider Enrollment	Yes			
			Manage and Issue Provider Licensing	Yes			
			Manage and Issue Provider Certifications	Yes			
			Monitoring and Oversight of Provider License/Credentials/Certifications Change	Yes			
			Monitor Provider Compliance	Yes			
			Manage Provider Corrective Action Plan	Yes			
			Manage Provider Citations	Yes			

Business	Business Area (Level	Business Function Group	Duringer Frantier, (Level 2)	utomation Required	County Users -	System Owners - High	Cánom
Context	1)	(Level 2)	Business Function (Level 3)	۲ ۷۵۵	High value	value	Curam
			Manage Provider Sanctions	Yes			
			Manage Coordination of Communication To	res			
			External Parties of Provider Citations and				
		DUS Direct Some	Salictions	No			
		DH3 Direct Serv	Establish Provider Information	Vos			
			Manage Provider Data	Ves			
			Find Provider Information	Yes			
			Manage Contract Providers	Yes			
			Manage Counties as Providers	Yes			
		DHS Direct Serv	ice Provider Support	No			
			Manage Provider Communications and Notifications	Yes			
			Manage Provider Complaints, Grievance, and Appeal	Yes			
			Perform Population and Provider Outreach	Yes			
			Provide Provider Education and Training	No			
		<b>DHS Direct Serv</b>	ice Provider Quality Assurance	No			
			Develop Provider Quality Measures	Yes			
			Track Provider Quality Measures	Yes			
	DHS Direct Se	rvice Contractor	Management	Yes			
		DHS Direct Serv	ice Contractor Information Management	Yes			
			Manage Contractor Information	Yes			
			Inquire Contractor Information	Yes			
		DHS Direct Serv	ice Contractor Support	Yes			
			Manage Contractor Communication	Yes			

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3) Perform Contractor Outreach	A Automation Required	County Users - High Value	System Owners - High Value	Cúram
			Manage Contractor Grievance and Appeal	Yes			
		DHS Direct Serv	ice Contract Management	Yes			
			Produce Solicitation	Yes			
			Advertise Solicitation	Yes			
			Evaluate Proposal and Award Contract	Yes			
			Manage Contracts	Yes			
			Manage MOUs	Yes			
			Manage Professional Service Agreements	Yes			
			Manage Sponsorships	Yes			
			Manage Allocations	Yes			
			Process Award Letters	Yes			
			Update/Revise MOUs and Professional Service Agreements	Yes			
			Close Out Contract	Yes			
	DHS Direct Se	ervice Operations	Management	Yes			
		<b>DHS Direct Serv</b>	ice Coordination Support	Yes			
			Manage Caseworker Information	Yes			
			Manage Caseworker-Team Relationships	Yes			
			Manage Caseworker-Function Relationship	Yes			
			Track Caseworker Training and Certifications	Yes			
			Track Caseworker Performance	Yes			
			Manage Case Workload	Yes			

Business	Business Area (Level	Business Function Group		itomation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	Αu	High Value	Value	Cúram
			Manage Service/Program Waiting List	Yes			
			Manage Workflow	Yes			
			Respond to Federal Program Performance	Yes			
			Audit				
			Produce AFCARS Reports	Yes			
		DHS Direct Serv	ice Information Services Management	No			
			Manage User Access Privileges	Yes			
			Track User Access to Information	Yes			
			Manage Data Freeze Requirements	Yes			
			Audit Access to Information	Yes			
			Manage HIE Access Rules	Yes			
			Manage Access to External Parties	Yes			
			Manage Agreements with External Parties	Yes			
		DHS Direct Serv	ice Operational Reporting	No			
			Operational Reports Management	Yes			
	DHS Direct Se	rvice Communic	ations, Education and Training	No			
		DHS Direct Serv	ice Communications Rules Management	No			
			Manage Outreach Rules	Yes			
			Manage Communication Rules	Yes			
		DHS Direct Serv	ice Outreach	No			
			Perform Outreach	Yes			
			Manage Public Reporting	Yes			
		DHS Direct Serv	ice Notifications	No			
			Issue Notifications	Yes			
		<b>DHS Direct Serv</b>	ice Education & Training	No			
			Share Inter-Agency Information and Training	Yes			

Business	Business Area (Level	Business Function Group	Business Eurotion (Lovel 2)	utomation Required	County Users -	System Owners - High Value	Cúram
Context	1)	(Level 2)	Develop Training for External Devticing the	A	High value	value	Curam
			and Community Partners	res			
			Develop Curriculum	Yes			
			Deliver Training Events	Yes			
			Deliver Tools & Technologies	Yes			
			Manage Resource Libraries	Yes			
			Register Participants	Yes			
			Manage ADA Compliance	Yes			
			Manage Training Evaluations	Yes			
			Provide Certifications	Yes			
DHS Distribut	ed Support Se	ervices		No			
	Local Finance	s Management		No			
		Local Accounts	Receivable Management	No			
			Manage Provider Recoupment	Yes			
			Manage TPL Recovery	Yes			
			Manage Estate Recovery	Yes			
			Manage Drug Rebate	Yes			
			Manage Cost Settlement	Yes			
			Manage Accounts Receivable Information	Yes			
			Manage Accounts Receivable Funds	Yes			
			Prepare Member Premium Invoice	Yes			
		Local Accounts	Payable Management	No			
			Manage EBT Transactions	Yes			
			Manage Contractor Payments	Yes			
			Manage Payments to Parents	Yes			
			Manage Client Financial Participation	Yes			

Business	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Nutomation Required	County Users - High Value	System Owners - High Value	Cúram
Context	-,	(100012)	Manage Incentive Payment	Ves			Curum
			Manage Local-Level Accounts Payable Information	Yes			
			Manage Local-Level Accounts Payable Disbursement	Yes			
			Manage 1099	Yes			
		Local Fiscal Mar	agement	No			
			Formulate Budget	Yes			
			Manage Budget Information	Yes			
			Manage Fund	Yes			
			Generate Financial Report	Yes			
			Provide Financial Data from Source System	Yes			
		Local Grants Ma	inagement	No			
			Manage Grants Allocated to Local Entities by the State	Yes			
<b>DHS Support</b>	Services			No			
	<b>DHS</b> Finances	Management		No			
		DHS Accounts R	eceivable Management	No			
			Manage Provider Recoupment	Yes			
			Manage Estate Recovery	Yes			
			Manage Drug Rebate	Yes			
			Manage Cost Settlement	Yes			
			Manage Accounts Receivable Information	Yes			
			Manage Accounts Receivable Funds	Yes			
			Prepare Member Premium Invoice	Yes			
		<b>DHS Accounts P</b>	ayable Management	No			

Business	Business Area (Level	Business Function Group		utomation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	Ā	High Value	Value	Curam
			Manage Payments to other Agencies and Counties	Yes			
			Manage Incentive Payment	Yes			
			Manage State-Level Accounts Payable Information	Yes			
			Manage State-Level Accounts Payable	Yes			
			Disbursement				
			Manage 1099	Yes			
		DHS Fiscal Man	agement	No			
			Formulate Budget	Yes			
			Manage Budget Information	Yes			
			Manage Fund	Yes			
			Generate Financial Report	Yes			
			Provide Financial Data from Source System	Yes			
		DHS Grants Ma	nagement	No			
			Manage Grants Allocated to the State by the	Yes			
			Federal Government				
<b>DHS Program</b>	Governance a	and Monitoring		No			
	Performance	Management		No			
		<b>Compliance Ma</b>	nagement	No			
			Design Surveillance Strategy and Method	Yes			
			Identify Employee Anomaly	Yes			
			Identify Enrollment Anomalies	Yes			
			Identify Utilization Anomalies	Yes			
			Identify Provider Anomalies	Yes			
			Identify Compliance Risks	Yes			

Business	Business Area (Level	Business Function Group		utomation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	Ā	High Value	Value	Curam
			Establish Compliance Incident / Investigative Case	Yes			
			Manage Compliance Incident Information	Yes			
			Monitor and Manage Investigative Data Security	Yes			
			Determine Action to Resolve Compliance Incident	Yes			
			Close Compliance Incident/Investigative Case	Yes			
		Performance Ev	aluation	No			
			Develop Evaluation Plan	Yes			
			Manage Outcome Measurement	Yes			
			Manage Provider-Specific Performance	Yes			
			Manage Performance Data Collected Via Other Processes	Yes			
			Collect Additional Data	Yes			
			Analyze and Interpret Data	Yes			
			Develop Performance Measurement	Yes			
			Reporting Requirements				
			Develop Evaluation Report	Yes			
			Develop Federal and State Reports	Yes			
		<b>Business Intellig</b>	ence	No			
			Data Integration	Yes			
			Reporting	Yes			
	Program Management						
		<b>Program Policy</b>	and Inter-Program Coordination	No			

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	County Users - High Value	System Owners - High Value	Cúram
			Manage Program Policy	Yes			
			Manage Relationships Between Programs	Yes			
			Manage Program Information	Yes			
			Manage Reference Information	Yes			
			Manage Rate Settings	Yes			
			Manage Performance Measures	Yes			
			Manage Allowances and Disallowances Process	Yes			
			Recognize Accreditation, Credentials, and Ratings	Yes			
			Manage Eligibility Criteria	Yes			
			Manage Program Rules	Yes			
			Create Block Grant Application	Yes			
			Perform Block Grant Reviews	Yes			
			Manage Block Grants	Yes			
		Program / Servi	ce Forecasting and Risk Assessment	No			
			Forecast and Plan Services	Yes			
			Manage Program Risks	Yes			
	Business Rela	itionships		No			
		Relationships /	Interoperability Management	No			
			Establish Business Relationship	Yes			
			Manage Information Sharing with Juvenile Justice	Yes			
			Manage Information Sharing with State Vital Statistics	Yes			

Business	Business Area (Level	Business Function Group		tomation Required	County Users -	System Owners - High	
Context	1)	(Level 2)	Business Function (Level 3)	Au	High Value	Value	Cúram
			Manage Information Sharing with Department of Education	Yes			
			Manage Information Sharing with Mental	Yes			
			Manage Information Sharing with Managed Care Organization	Yes			
			Manage Information Sharing with Individual Service Providers	Yes			
			Manage Information Sharing with Social Security Administration	Yes			
			Manage Information Sharing with MN Department of Revenue	Yes			
			Manage Information Sharing with Internal Revenue Service	Yes			
			Manage Information Sharing with MN Department of Health	Yes			
			Manage Information Sharing with the MN Department of Corrections	Yes			
			Manage Information Sharing with Other State Entities	Yes			
			Manage Information Sharing with Law Enforcement	Yes			
	Policy & Over	sight		No			
		Governance & N	Management Support	No			
			Policy Management	Yes			
			Manage Communication of Policy	Yes			
			Manage Improvement of Policy	Yes			

Business Context	Business Area (Level 1)	Business Function Group (Level 2)	Business Function (Level 3)	Automation Required	County Users - High Value	System Owners - High Value	Cúram
			Manage Privacy and Security Policies	Yes			
		Resource mana	gement	No			
			Manage Assets	Yes			
			Manage Human Resources	Yes			
			Manage Procurement	Yes			
			Manage Information	Yes			
			Manage Knowledge	Yes			
	Plan Manage	ment		No			
		Plan Administra	tion	No			
			Develop Agency Goals and Objectives	No			
			Maintain Program Policy	Yes			
			Maintain State Plan	Yes			
		Health Plan Adr	ninistration	No			
			Manage Health Plan Information	Yes			
			Manage Performance Measures	Yes			
		<b>Health Benefits</b>	Administration	No			
			Manage Health Benefit Information	Yes			
			Manage Reference Information	Yes			
			Manage Rate Setting	Yes			
		Plan Manageme	ent Rules Management	No			
			Manage Rules	Yes			

Technical Component / Tool	Component Category	Service	Measured	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Wareh	HIX Tech Co	MMIS/ Minr
				Technical	Technical							
				Canability	Canability							
Technical Details				capability	capability	cupublicy	capability	capability	capability	capability	capability	capability
Technical Details	Implementation Language		No									
Technical Details	Implementation Language	None										
Technical Details	Operating System		No									
Technical Details	Operating System	None										
Technical Support Components												
Technical Support Components	Business Intelligence and Data Ware	ehouse										
Technical Support Components	Business Intelligence/Analytics		Yes									
Technical Support Components	Business Intelligence/Analytics	Manage Analytic Templates										
Technical Support Components	<b>Business Intelligence/Analytics</b>	Perform Analytics										
Technical Support Components	Business Intelligence/Analytics	Portal Integration of Analytics										
Technical Support Components	<b>Business Intelligence/Analytics</b>	Web analytics										
Technical Support Components	Business Intelligence/Analytics	Manage Data Feeds										
Technical Support Components	Business Intelligence/Analytics	Audit Collected Data										
Technical Support Components	Data Warehouse		No									
Technical Support Components	Data Warehouse	None										
Technical Support Components	Confidentiality Management											
Technical Support Components	Anonymization		Yes									
Technical Support Components	Anonymization	Perform Data Anonymization										
Technical Support Components	Anonymization	Manage Data Anonymization Format							<b></b>			
Technical Support Components	Encryption		Yes									
		Utilize encryption algorithms and										
		Implementations, in compliance with										
Taskalash Company Company and	For any set of a set	Technology - Special Publications 800-										
recinical Support Components	Encryption	52 800-77 or 800-113										
		(http://csrc.nist.gov/publications/PubsS										
		Ps.html)										
Technical Support Components	Encryption	Data Encryption (e.g.: passwords)										
Technical Support Components	Data Management											
Technical Support Components	Data Transformation		Yes									
Technical Support Components	Data Transformation	Manage ETL scripts										
Technical Support Components	Data Transformation	Manage ETL schedules										
Technical Support Components	Master Data Management		Yes									
		Support data dictionaries with the										
Technical Support Components	Master Data Management	usage, associated business rule and										
		semantic information on its data										
		elements Master Data Management functions.							l			
Technical Support Components	Master Data Management	including data standardization and										
		deduplication										
Technical Support Components	Identity and Access Management											
Technical Support Components	Authentication		Yes									
Technical Support Components	Authentication	Compliance management										
Technical Support Components	Authentication	LDAP compliant authentication service(s) for user authentication										
Technical Support Components	Authentication	Prevent concurrent logins for the same User ID unless specifically authorized										
Technical Support Components	Authentication	Automatically log, and disable access to any user accounts following a specified, administrator configurable number of unsuccessful log-on attempts										

Taskaisal Component / Task	Component Cotogony	Comileo	Maggurad	MAVIC	ccic	MECO	DDICM	CNAL	Macholces	Data Warah		MANALS / Mine
Technical Component / Tool		Service	weasured	IVIAXIS	5515	IVIECZ	PRISIVI	SIVII	WINCHUICES	Data waren	HIX TECH CO	wiwis/ winr
				Technical	Technical							
				Capability	Capability							
Technical Support Components	Authorization		Yes	. ,		, ,	. ,	. ,	, ,	, ,	, ,	· · ·
Technical Support Components	Authorization	Real-time validation of user access										
Technical Support Components	Digital Signatures		Yes									
Technical Support Components	Digital Signatures	Digital Certificates using X.509 standard										
Technical Support Components	Identity Management		Yes									
Technical Support Components	Identity Management	Manage User Identity										
Technical Support Components	Identity Management	Enforce standards for password rules										
Technical Support Components	Privilege Management		Yes									
Technical Support Components	Privilege Management	Manage Resources										
Technical Support Components	Privilege Management	Manage Access Privileges										
Technical Support Components	Privilege Management	Field level security in accordance with										
Technical Support Components	Privilege Management	RBAC Maintain a history of security profile										
Technical Support Components	IT Management	assignments for a User.										
Technical Support Components	Application Management		No									
Technical Support Components	Application Management	None	110									
Technical Support Components	IT Operations Management	None	No									
Technical Support Components	IT Operations Management	None										
Technical Support Components	Service Desk Management		No									ł
Technical Support Components	Service Desk Management	None										ł
Technical Support Components	Technical Management		No	1								
Technical Support Components	Technical Management	None										
Technical Support Components	Infrastructure											
Technical Support Components	Application Server		No									
Technical Support Components	Application Server	None										
Technical Support Components	RDBMS		Yes									
Technical Support Components	RDBMS	Relational database management system (RDBMS)										
Technical Support Components	RDBMS	Referential integrity enforcement										
Technical Support Components	Intrusion Management											
Technical Support Components	Audit		Yes									
Technical Support Components	Audit	Authorized personnel to view all										
Technical Support Components	Audit	Log User / System Activity										
Technical Support Components	Audit	Log User Access Violations										
Technical Support Components	Audit	Analyze User / System Activity										
Technical Support Components	Intrusion Prevention		Yes									
Technical Support Components	Intrusion Prevention	Host-based Intrusion Detection										
Technical Support Components	Intrusion Prevention	Detect malicious code										
Technical Support Components	Intrusion Prevention	Detect viruses										
Technical Support Components	Intrusion Prevention	Host-based Intrusion Prevention										
Technical Support Components	Intrusion Prevention	Prevent malicious code										
Technical Support Components	Intrusion Prevention	Configure Quarantine Policies								1		
Technical Support Components	System Interoperability Managemer	nt										
Technical Support Components	Data Integration Management		Yes									
Technical Support Components	Data Integration Management	Manage Interface Configuration										
Technical Support Components	Data Integration Management	Manage Interface Schedule										
Technical Support Components	Data Integration Management	Construct Interface Message										
Technical Support Components	Data Integration Management	Deconstruct Interface Message										

				BAANIC	CC1C		DDICA	CD 41		Data Wanah		DADALC / DALaw
Technical Component / Tool	Component Category	Service	Measured	MAXIS	5515	MEC2	PRISIVI	SIVII	MINCHOICES	Data waren	HIX Tech Col	MINIS/ MINI
				Technical	Technical							
				Capability	Capability							
Technical Support Components	Data Integration Management	Manage Internal Communication										
Technical Support Components	System Integration Management	Format	Yes									
Technical Support Components	System Integration Management	SFTP										
Technical Support Components	System Integration Management	EDI										
Technical Support Components	System Integration Management	Web Services										
Technical Support Components	System Integration Management	ESB										
Technical Support Components	System Integration Management	Service Registry and Repository										
Technical Support Components	System Integration Management	Service Manager										
Technical Support Components	System Integration Management	Non-Repudiation										
Technical Support Components	Workflow and Rules Processing											
Technical Support Components	Rules Processing		Yes									
Technical Support Components	Rules Processing	Manage Business Rules (Create / Edit / Delete)										
Technical Support Components	Rules Processing	Maintains a Rules Catalog										
		Automated interfaces through a set of										
Technical Support Components	Rules Processing	APIs (Application Programming										
		Allow the re-use of the rule-repository										
Technical Support Components	Rules Processing	and rules-driven technology										
Technical Support Components	Rules Processing	Modification of business rules via a GUI (Graphical User Interface)										
Technical Support Components	Rules Processing	Ability to attach business rules to workflow activities										
Technical Support Components	Rules Processing	Manage Business Rules										
Technical Support Components	Rules Processing	Inference Engine										
Technical Support Components	Rules Processing	Event Processing Engine										
Technical Support Components	Workflow Processing		Yes									
Technical Support Components	Workflow Processing	Process Scripting (Business Process										
Technical Support Components	Workflow Processing	Current Status Verification User										
Technical Support Components	Workflow Processing	Authority Validation										
Technical Support Components	Workflow Processing	Script Execution										
Technical Support Components	Workflow Processing	Create Notification										
Technical Support Components	Workflow Processing	Update Notification Content										
Technical Support Components	Workflow Processing	Delete Notification										
Technical Support Components	Workflow Processing	Send Notification										
Technical Support Components	Workflow Processing	Manage Notification Rules										
Technical Support Components	Workflow Processing	Manage Workflow Rules										
Communications Interface Compone	nts											
Communications Interface Compone	Access		<b>.</b> .									
Communications Interface Compone	Kiosk		No									
Communications Interface Components	Kiosk	None										
<b>Communications Interface Compone</b>	Mobile		Yes									
Communications Interface Components	Mobile	Support the use of mobile devices										
<b>Communications Interface Compone</b>	Portal		Yes									
Communications Interface Components	Portal	Web browser based primary interface										
<b>Communications Interface Compone</b>	Unified Communications											
<b>Communications Interface Compone</b>	E-Mail		Yes									
Communications Interface Components	E-Mail	Email interface synchronizing calendar & scheduling data										

Technical Component / Tool	Component Category	Service	Measured	MAXIS	SSIS	MEC2	PRISM	SMI	MnCHOICES	Data Wareh	HIX Tech Co	MMIS/ Minr
				Technical	Technical							
Communications Interface Common	Fau		Voc	Capability	Capability							
Communications Interface Compone	FdX	-	Tes									
Communications Interface Components	Fax	Fax										
<b>Communications Interface Compone</b>	IVR		Yes									
Communications Interface Components	IVR	Interactive Voice Response										
<b>Communications Interface Compone</b>	Text Messaging		Yes									
Communications Interface Components	Text Messaging	Text Messaging										

				Legacy	
				System High	
Technical Component / Tool	Component Category	Service	Measured	Score	Cúram
				Technical	Technical
				Capability	Capability
Technical Details					
Technical Details	Implementation Language		No		
Technical Details	Implementation Language	None			
Technical Details	Operating System		No		
Technical Details	Operating System	None			
Technical Support Components					
Technical Support Components	Business Intelligence and Data Wa	irehouse			
Technical Support Components	Business Intelligence/Analytics		Yes		
Technical Support Components	<b>Business Intelligence/Analytics</b>	Manage Analytic Templates			
Technical Support Components	<b>Business Intelligence/Analytics</b>	Perform Analytics			
Technical Support Components	<b>Business Intelligence/Analytics</b>	Portal Integration of Analytics			
Technical Support Components	<b>Business Intelligence/Analytics</b>	Web analytics			
Technical Support Components	<b>Business Intelligence/Analytics</b>	Manage Data Feeds			
Technical Support Components	<b>Business Intelligence/Analytics</b>	Audit Collected Data			
Technical Support Components	Data Warehouse		No		
Technical Support Components	Data Warehouse	None			
Technical Support Components	Confidentiality Management				
Technical Support Components	Anonymization		Yes		
Technical Support Components	Anonymization	Perform Data Anonymization			
Technical Support Components	Anonymization	Manage Data Anonymization Format			
Technical Support Components	Encryption		Yes		
		Utilize encryption algorithms and implementations, in compliance with National Institute of Standards and			
Technical Support Components	Encryption	s.html)			
Technical Support Components	Encryption	Data Encryption (e.g.: passwords)			
Technical Support Components	Data Management				

				Legacy	
				System High	
Technical Component / Tool	Component Category	Service	Measured	Score	Cúram
				Technical	Technical
				Capability	Capability
Technical Support Components	Data Transformation		Yes		
Technical Support Components	Data Transformation	Manage ETL scripts			
Technical Support Components	Data Transformation	Manage ETL schedules			
Technical Support Components	Master Data Management		Yes		
Technical Support Components	Master Data Management	Support data dictionaries with the usage, associated business rule and semantic information on its data elements			
		Master Data Management functions,			
Technical Support Components	Master Data Management	including data standardization and			
		deduplication.			
Technical Support Components	Identity and Access Management				
Technical Support Components	Authentication		Yes		
Technical Support Components	Authentication	Compliance management			
Technical Support Components	Authentication	LDAP compliant authentication service(s)			
		for user authentication			
Technical Support Components	Authentication	Prevent concurrent logins for the same User ID unless specifically authorized			
Technical Support Components	Authentication	Automatically log, and disable access to any user accounts following a specified, administrator configurable number of unsuccessful log-on attempts			
Technical Support Components	Authorization		Yes		
Technical Support Components	Authorization	Real-time validation of user access			
Technical Support Components	Digital Signatures		Yes		
Technical Support Components	Digital Signatures	Digital Certificates using X.509 standard (or most recent version)			
Technical Support Components	Identity Management		Yes		
Technical Support Components	Identity Management	Manage User Identity			
Technical Support Components	Identity Management	Enforce standards for password rules			

				Legacy	
				System High	
Technical Component / Tool	Component Category	Service	Measured	Score	Cúram
				Technical	Technical
				Capability	Capability
Technical Support Components	Privilege Management		Yes		
Technical Support Components	Privilege Management	Manage Resources			
Technical Support Components	Privilege Management	Manage Access Privileges			
Technical Support Components	Privilege Management	Field level security in accordance with			
		RBAC			
Technical Support Components	Privilege Management	Maintain a history of security profile			
Technical Support Components	IT Management				
Technical Support Components	Application Management		No		
Technical Support Components	Application Management	None	-		
Technical Support Components	IT Operations Management		No		
Technical Support Components	IT Operations Management	None			
Technical Support Components	Service Desk Management		No		
Technical Support Components	Service Desk Management	None			
Technical Support Components	Technical Management		No		
Technical Support Components	Technical Management	None			
Technical Support Components	Infrastructure				
Technical Support Components	Application Server		No		
Technical Support Components	Application Server	None			
Technical Support Components	RDBMS		Yes		
Technical Support Components	RDBMS	Relational database management system (RDBMS)			
Technical Support Components	RDBMS	Referential integrity enforcement			
Technical Support Components	Intrusion Management				
Technical Support Components	Audit		Yes		
Technical Support Components	Audit	Authorized personnel to view all security audit logs			
Technical Support Components	Audit	Log User / System Activity			
Technical Support Components	Audit	Log User Access Violations			
Technical Support Components	Audit	Analyze User / System Activity			
Technical Support Components	Intrusion Prevention		Yes		

				Legacy	
				System High	
Technical Component / Tool	Component Category	Service	Measured	Score	Cúram
				Technical	Technical
				Capability	Capability
Technical Support Components	Intrusion Prevention	Host-based Intrusion Detection software			
Technical Support Components	Intrusion Prevention	Detect malicious code			
Technical Support Components	Intrusion Prevention	Detect viruses			
Technical Support Components	Intrusion Prevention	Host-based Intrusion Prevention			
Technical Support Components	Intrusion Prevention	Prevent malicious code			
Technical Support Components	Intrusion Prevention	Configure Quarantine Policies			
Technical Support Components	System Interoperability Manageme	ent			
Technical Support Components	Data Integration Management		Yes		
Technical Support Components	Data Integration Management	Manage Interface Configuration			
Technical Support Components	Data Integration Management	Manage Interface Schedule			
Technical Support Components	Data Integration Management	Construct Interface Message			
Technical Support Components	Data Integration Management	Deconstruct Interface Message			
Technical Support Components	Data Integration Management	Manage Internal Communication Format			
Technical Support Components	System Integration Management		Yes		
Technical Support Components	System Integration Management	SFTP			
Technical Support Components	System Integration Management	EDI			
Technical Support Components	System Integration Management	Web Services			
Technical Support Components	System Integration Management	ESB			
Technical Support Components	System Integration Management	Service Registry and Repository			
Technical Support Components	System Integration Management	Service Manager			
Technical Support Components	System Integration Management	Non-Repudiation			
Technical Support Components	Workflow and Rules Processing				
Technical Support Components	Rules Processing		Yes		
Technical Support Components	Rules Processing	Manage Business Rules (Create / Edit / Delete)			
Technical Support Components	Rules Processing	Maintains a Rules Catalog			
Technical Support Components	Rules Processing	Automated interfaces through a set of APIs (Application Programming Interfaces)			

				Legacy	
				System High	
Technical Component / Tool	Component Category	Service	Measured	Score	Cúram
				Technical	Technical
				Capability	Capability
To shallow part Common ante	Dulas Duascesia a	Allow the re-use of the rule-repository			
recnnical support Components	Rules Processing	and rules-driven technology			
Technical Support Components	Rules Processing	Modification of business rules via a GUI			
		(Graphical User Interface)	-		
Technical Support Components	Rules Processing	workflow activities			
Technical Support Components	Rules Processing	Manage Business Rules			
Technical Support Components	Rules Processing	Inference Engine			
Technical Support Components	Rules Processing	Event Processing Engine			
Technical Support Components	Workflow Processing		Yes		
Technical Support Components	Workflow Processing	Process Scripting (Business Process			
		Execution Language (BPEL))			
Technical Support Components	Workflow Processing	Current Status Verification User			
Technical Support Components	Workflow Processing	Authority Validation			
Technical Support Components	Workflow Processing	Script Execution			
Technical Support Components	Workflow Processing	Create Notification			
Technical Support Components	Workflow Processing	Update Notification Content			
Technical Support Components	Workflow Processing	Delete Notification			
Technical Support Components	Workflow Processing	Send Notification			
Technical Support Components	Workflow Processing	Manage Notification Rules			
Technical Support Components	Workflow Processing	Manage Workflow Rules			
<b>Communications Interface Componen</b>	nts				
<b>Communications Interface Componen</b>	Access				
<b>Communications Interface Componen</b>	Kiosk		No		
Communications Interface Components	Kiosk	None			
Communications Interface Component	Mobile		Yes		
Communications Interface Components	Mobile	Support the use of mobile devices			
<b>Communications Interface Componen</b>	Portal		Yes		

				Legacy System High	
Technical Component / Tool	Component Category	Service	Measured	Score	Cúram
				Technical	Technical
				Capability	Capability
Communications Interface Components	Portal	Web browser based primary interface			
<b>Communications Interface Componen</b>	Unified Communications				
<b>Communications Interface Componen</b>	E-Mail		Yes		
Communications Interface Components	E-Mail	Email interface synchronizing calendar & scheduling data			
<b>Communications Interface Componen</b>	Fax		Yes		
Communications Interface Components	Fax	Fax			
<b>Communications Interface Componen</b>	IVR		Yes		
Communications Interface Components	IVR	Interactive Voice Response			
<b>Communications Interface Componen</b>	Text Messaging		Yes		
Communications Interface Components	Text Messaging	Text Messaging			

Standard Componen	it	Standard Function					
	Standard Process	Standard Function	MAXIS	SSIS	MEC2	PRISM	SMI
			Solution uses Standard?				
				Solution uses Standard?	Solution uses Standard?	Solution uses Standard?	Solution uses Standard?
Technology Standa	rds						
	Architecture, Analysis, and Design Standards						
Technology Standa	Architecture, Analysis, and Design Standards	Unified Modeling Language (UML Profiles)					
Technology Standa	Architecture Analysis and Design Standards	Meta-Object Facility (MOF)					
Technology Standa	Architecture, Analysis, and Design Standards	Model Driven Architecture (MDA)					
Technology Standa	Architecture, Analysis, and Design Standards	Business Process Definition Metamodel (BPDM)					
Technology Standa	Architecture, Analysis, and Design Standards	UML Enterprise Distributed Object Computing					
Technology Standa	Architecture, Analysis, and Design Standards	Web Ontology Language (OWL-S)					
Technology Standa	Architecture, Analysis, and Design Standards	Web Service Definition Language (W/SDL)					
Technology Standa	Architecture, Analysis, and Design Standards	Universal Business Language (UBL)					
Technology Standa	Architecture, Analysis, and Design Standards	W/S-Composite Application Models (WS-CAE)*					
Technology Standa	Architecture, Analysis, and Design Standards	Woh Application and Compound Document*					
Technology Stanua	Architecture, Analysis, and Design Standards	Representation State Transfer (REST) Architecture - Web					
Tashnalagu Standa	Architacture Analysis and Design Standards	Somicos*					
Technology Standa	Architecture, Analysis, and Design Standards	Web Services Modeling Optology (W(SMO)*					
Technology Stanua	Architecture, Analysis, and Design Standards	web services wodening Ontology (wsivio)					
Tashnalagu Standa	Architacture Analysis and Design Standards	National Lluman Convice Interpretability Architecture (NUCIA)*					
Technology Standa	Architecture, Analysis, and Design Standards	National Human Service Interoperability Architecture (NHSIA)*					
<b>T</b>	Service interoperability standards	Esternible Menture Learning (MAIL)					
Technology Standa	Service Interoperability Standards	Extensible Markup Language (XIVIL)					
Ta alexa la sur Chanala	Complete Internet and Alline Chample	Simple Object Access Protocol (SOAP) SOAP with attachments-					
Technology Standa	Service Interoperability Standards	Message Transmission Optimization Mechanism (MTOM)					
Technology Standa	Service Interoperability Standards	Universal Description, Discovery, and Integration (UDDI)					
<b>T</b>		Hypertext Transfer Protocol (HTTP) and Hypertext Transfer					
Technology Standa	Service Interoperability Standards	Protocol – Secure (HTTPS)					
Technology Standa	Service Interoperability Standards	Web Services Description Language (WSDL)					
Technology Standa	Service Interoperability Standards	Electronic Business XML (ebXML) Registry					
Technology Standa	Service Interoperability Standards	WS-POlicy					
Technology Standa	Service Interoperability Standards	WS-Agreement					
Technology Standa	Service Interoperability Standards	WS-Addressing					
Technology Standa	Service Interoperability Standards	WS-Reliability					
		Defense Advanced Research Projects Agency (DARPA) Agent					
Technology Standa	Service Interoperability Standards	Markup Language (DAML-S)					
Technology Standa	Service Interoperability Standards	Structured Query Language (SQL)					
Technology Standa	Service Interoperability Standards	XML Schema					
Technology Standa	Service Interoperability Standards	Service Level Arrangement Language (SLAng)					
Technology Standa	Service Interoperability Standards	Web Service Distribution Management (WSDM)					
Technology Standa	Service Interoperability Standards	WS-Reliable Messaging (WSRM)					
		IT Infrastructure Library (ITIL) – IT Service Management					
Technology Standa	Service Interoperability Standards	Capabilities Level					
Technology Standa	Service Interoperability Standards	Distributed Management Task Force (DMTF)					
Technology Standa	Service Interoperability Standards	Common Information Model (CIM)					
	Security and Privacy Standards						
		Federal Enterprise Architecture Security and Privacy Profile					
Technology Standa	Security and Privacy Standards	(FEA SPP)*					
		National Institute of Standards and Technology (NIST)					
Technology Standa	Security and Privacy Standards	Initiatives					
Technology Standa	Security and Privacy Standards	HIPAA Security and Privacy Rule*					
Technology Standa	Security and Privacy Standards	WS-Security – WS-I Security Profile					ļ
Technology Standa	Security and Privacy Standards	Liberty Alliance – Federated Approach*					
Technology Standa	Security and Privacy Standards	Security Assertion Markup Language (SAML)					
Technology Standa	Security and Privacy Standards	Enterprise Privacy Authorization Language (EPAL) – W3C					ļ
<b>Technology Standa</b>	Security and Privacy Standards	WS-Trust Model					
		eAuthentication and use of services Object Management					
Technology Standa	Security and Privacy Standards	Group (OMG) initiative					4
<b>Technology Standa</b>	Security and Privacy Standards	Public Key Infrastructure (PKI)					
<b>Technology Standa</b>	Security and Privacy Standards	Health Security					
		Unified Modeling Language (UML)sec and Security Engineering					
<b>Technology Standa</b>	Security and Privacy Standards	Profiles					

Standard Componen	t	Standard Function	-				
	Standard Process	Standard Function	MAXIS	SSIS	MEC2	PRISM	SMI
			Solution uses Standard?	G L 11 GL L 12		6 J. J	G L
				Solution uses Standard?	Solution uses Standard?	Solution uses Standard?	Solution uses Standard?
		Security and Privacy Data Content Labeling and XML Access					
<b>Technology Standa</b>	Security and Privacy Standards	Authorization*					
Technology Standa	Security and Privacy Standards	Consumer Health Informatics (CHI) Initiatives					
	Business Enabling Technologies						
		Business Process Model and Notation (BPMN) previously					
		known as Business Process Modeling Notation					
Technology Standa	Business Enabling Technologies	Business Motivation Model (BMM)					
Technology Standa	Business Enabling Technologies	Extensible Markup Language (XML) Forms (XForms)					
Technology Standa	Business Enabling Technologies	Rule Markup Language (RuleML) Initiative					
Technology Standa	Business Enabling Technologies	Workflow Management Coalition (WfMC)					
		Customer Relationship Management (CRM) Extended					
Technology Standa	Business Enabling Technologies	Relationship Management (XRM)*					
To shore he are Changela	Data and information Standards	A serve differed Channels Communities a MAD (ACC MAD)					
Technology Standa	Data and Information Standards	Accredited Standards Committee X12 (ASC X12)					
Technology Standa	Data and Information Standards	Continuity of Care Record (CCR)					
Technology Standa	Data and Information Standards	Current Potedule Terminology (CPT)					
Technology Standa	Data and Information Standards	Digital Imaging Communications in Medicine (DICOM)					
Technology Standa	Data and Information Standards	Health Level 7 (HI 7)					
Technology Standa	Data and Information Standards	International Classification of Diseases (ICD)					
reemology standa							
Technology Standa	Data and Information Standards	Logical Observation Identifiers Names and Codes (LOINC)					
reennology standa							
Technology Standa	Data and Information Standards	National Council for Prescription Drug Programs (NCPDP)					
Technology Standa	Data and Information Standards	National Information Exchange Model (NIEM)					
Technology Standa	Data and Information Standards	Public Health Information Network (PHIN)					
		Systematized Nomenclature of Medicine – Clinical Terms					
<b>Technology Standa</b>	Data and Information Standards	(SNOMED CT)					
Technology Standa	Data and Information Standards	Unified Medical Language System (UMLS)					
Legislation							
	Federal Information Security Management Act (FISMA) of						
	2002						
Legislation	Federal Information Security Management Act (FISMA) of 200	Federal Information Security Management Act (FISMA) of 2002	2				
	Health Insurance Portability and Accountability Act (HIPAA) o						
	1996	Lighth Insurance Dertability and Assountability Act (UDAA) of					
Logiclation	Health Incurance Portability and Accountability Act (HIDAA) o						
Legislation	Health Information Technology for Economic and Clinical	1550					
	Health Act (HITECH) of 2009						
		Health Information Technology for Economic and Clinical					
Legislation	Health Information Technology for Economic and Clinical Hea	Health Act (HITECH) of 2009					
	The Privacy Act of 1974						
Legislation	The Privacy Act of 1974	The Privacy Act of 1974					
	The e-Government Act of 2002						
Legislation	The e-Government Act of 2002	The e-Government Act of 2002					
	Patient Protection and Affordable Care Act of 2010, Section						
	1561 Recommendations						
		Patient Protection and Affordable Care Act of 2010, Section					
Legislation	Patient Protection and Affordable Care Act of 2010, Section 1	1561 Recommendations					
	26 U.S.C § 6103, Safeguards for Protecting Federal Tax						
	Returns and Return Information						
		25 U.S.C 9 6103, Sateguards for Protecting Federal Tax Returns					
Legislation	26 U.S.C 9 6103, Sateguards for Protecting Federal Tax Return	and Return Information	1				1

	Standard Process	Standard Function	Legacy Systems High Value	Cúram
			Solution uses Standard?	Solution uses Standard?
Technology Standar	rds			
	Architecture, Analysis, and Design Standards			
Technology Standar	Architecture, Analysis, and Design Standards	Unified Modeling Language (UML Profiles)		
Technology Standar	Architecture, Analysis, and Design Standards	Meta-Object Facility (MOF)		
Technology Standar	Architecture, Analysis, and Design Standards	Model Driven Architecture (MDA)		
Technology Standar	Architecture, Analysis, and Design Standards	Business Process Definition Metamodel (BPDM)		
Technology Standar	Architecture, Analysis, and Design Standards	UML Enterprise Distributed Object Computing		
Technology Standar	Architecture, Analysis, and Design Standards	Web Ontology Language (OWL-S)		
Technology Standar	Architecture, Analysis, and Design Standards	Web Service Definition Language (WSDL)		
Technology Standar	Architecture, Analysis, and Design Standards	Universal Business Language (UBL)		
Technology Standar	Architecture, Analysis, and Design Standards	WS-Composite Application Models (WS-CAF)*		
Technology Standar	Architecture, Analysis, and Design Standards	Web Application and Compound Document*		
		Representation State Transfer (REST) Architecture - Web		
Technology Standar	Architecture, Analysis, and Design Standards	Services*		
Technology Standar	Architecture, Analysis, and Design Standards	Web Services Modeling Ontology (WSMO)*		
		National Human Service Interoperability Architecture		
Technology Standar	Architecture, Analysis, and Design Standards	(NHSIA)*		
	Service Interoperability Standards			
Technology Standar	Service Interoperability Standards	Extensible Markup Language (XML)		
		Simple Object Access Protocol (SOAP) SOAP with attachments-		
Technology Standar	Service Interoperability Standards	Message Transmission Optimization Mechanism (MTOM)		
Technology Standar	Service Interoperability Standards	Universal Description, Discovery, and Integration (UDDI)		
		Hypertext Transfer Protocol (HTTP) and Hypertext Transfer		
Technology Standar	Service Interoperability Standards	Protocol – Secure (HTTPS)		
Technology Standar	Service Interoperability Standards	Web Services Description Language (WSDL)		
Technology Standar	Service Interoperability Standards	Electronic Business XML (ebXML) Registry		
Technology Standar	Service Interoperability Standards	WS-Policy		
Technology Standar	Service Interoperability Standards	WS-Agreement		
Technology Standar	Service Interoperability Standards	WS-Addressing		
Technology Standar	Service Interoperability Standards	WS-Reliability		
		Defense Advanced Research Projects Agency (DARPA) Agent		
Technology Standar	Service Interoperability Standards	Markup Language (DAML-S)		
Technology Standar	Service Interoperability Standards	Structured Query Language (SQL)		
Technology Standar	Service Interoperability Standards	XML Schema		
Technology Standar	Service Interoperability Standards	Service Level Arrangement Language (SLAng)		
Technology Standar	Service Interoperability Standards	Web Service Distribution Management (WSDM)		
Technology Standar	Service Interoperability Standards	WS-Reliable Messaging (WSRM)		
		IT Infrastructure Library (ITIL) – IT Service Management		
Technology Standar	Service Interoperability Standards	Capabilities Level		
Technology Standa	Service Interoperability Standards	Distributed Management Task Force (DMTF)		

	Standard Process	Standard Function	Legacy Systems High Value	Cúram
			Solution uses Standard?	Solution uses Standard?
Technology Standa	Service Interoperability Standards	Common Information Model (CIM)		
	Security and Privacy Standards			
		Federal Enterprise Architecture Security and Privacy Profile		
Technology Standa	Security and Privacy Standards	(FEA SPP)*		
		National Institute of Standards and Technology (NIST)		
Technology Standa	Security and Privacy Standards	Initiatives		
Technology Standa	Security and Privacy Standards	HIPAA Security and Privacy Rule*		
<b>Technology Standa</b>	Security and Privacy Standards	WS-Security – WS-I Security Profile		
Technology Standa	Security and Privacy Standards	Liberty Alliance – Federated Approach*		
Technology Standa	Security and Privacy Standards	Security Assertion Markup Language (SAML)		
Technology Standa	Security and Privacy Standards	Enterprise Privacy Authorization Language (EPAL) – W3C		
Technology Standa	Security and Privacy Standards	WS-Trust Model		
		eAuthentication and use of services Object Management		
Technology Standa	Security and Privacy Standards	Group (OMG) initiative		
Technology Standa	Security and Privacy Standards	Public Key Infrastructure (PKI)		
Technology Standa	Security and Privacy Standards	Health Security		
		Unified Modeling Language (UML)sec and Security		
Technology Standa	Security and Privacy Standards	Engineering Profiles		
		Security and Privacy Data Content Labeling and XML Access		
Technology Standa	Security and Privacy Standards	Authorization*		
<b>Technology Standa</b>	Security and Privacy Standards	Consumer Health Informatics (CHI) Initiatives		
	Business Enabling Technologies			
		Business Process Model and Notation (BPMN) previously		
		known as Business Process Modeling Notation		
Technology Standa	Business Enabling Technologies	Business Motivation Model (BMM)		
<b>Technology Standa</b>	Business Enabling Technologies	Extensible Markup Language (XML) Forms (XForms)		
<b>Technology Standa</b>	Business Enabling Technologies	Rule Markup Language (RuleML) Initiative		
Technology Standa	Business Enabling Technologies	Workflow Management Coalition (WfMC)		
		Customer Relationship Management (CRM) Extended		
Technology Standa	Business Enabling Technologies	Relationship Management (xRM)*		
	Data and Information Standards			
Technology Standa	Data and Information Standards	Accredited Standards Committee X12 (ASC X12)		
<b>Technology Standa</b>	Data and Information Standards	Continuity of Care Record (CCR)		
Technology Standa	Data and Information Standards	Current Procedure Terminology (CPT)		
Technology Standa	Data and Information Standards	Current Dental Terminology (CDT)		
Technology Standa	Data and Information Standards	Digital Imaging Communications in Medicine (DICOM)		
Technology Standa	Data and Information Standards	Health Level 7 (HL7)		
<b>Technology Standa</b>	Data and Information Standards	International Classification of Diseases (ICD)	1	1

	Standard Process	Standard Function	Legacy Systems High Value	Cúram
			Colution was Stondard	Colution was Chandand?
			Solution uses Standard?	Solution uses Standard?
Technology Standa	Data and Information Standards	Logical Observation Identifiers Names and Codes (LOINC)		
Technology Standa	Data and Information Standards	National Council for Prescription Drug Programs (NCPDP)		
Technology Standa	Data and Information Standards	National Information Exchange Model (NIEM)		
Technology Standa	Data and Information Standards	Public Health Information Network (PHIN)		
		Systematized Nomenclature of Medicine – Clinical Terms		
Technology Standa	Data and Information Standards	(SNOMED CT)		
Technology Standa	Data and Information Standards	Unified Medical Language System (UMLS)		
Legislation				
	Federal Information Security Management Act (FISMA) of 2002			
Legislation	Federal Information Security Management Act (FISMA) of 200	Federal Information Security Management Act (FISMA) of 2002		
	Health Insurance Portability and Accountability Act (HIPAA)			
Legislation	Health Insurance Portability and Accountability Act (HIPAA) o	Health Insurance Portability and Accountability Act (HIPAA) of 1996		
	Health Information Technology for Economic and Clinical Health Act (HITECH) of 2009			
Legislation	Health Information Technology for Economic and Clinical Hea	Health Information Technology for Economic and Clinical Health Act (HITECH) of 2009		
	The Privacy Act of 1974			
Legislation	The Privacy Act of 1974	The Privacy Act of 1974		
	The e-Government Act of 2002			
Legislation	The e-Government Act of 2002	The e-Government Act of 2002		
	Patient Protection and Affordable Care Act of 2010, Section 1561 Recommendations			
Legislation	Patient Protection and Affordable Care Act of 2010, Section 1	Patient Protection and Affordable Care Act of 2010, Section 1561 Recommendations		
	26 U.S.C § 6103, Safeguards for Protecting Federal Tax Returns and Return Information			
Legislation	26 U.S.C § 6103, Safeguards for Protecting Federal Tax Return	26 U.S.C § 6103, Safeguards for Protecting Federal Tax Returns and Return Information		

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3	Comments
		Components as needed).	for each component).	
Business Application Components				
Program Management Components				
Program Operations				
Compliance Management	No evaluated legacy system effectively automates Compliance Management	Cúram and procured component to supplement compliance management functionality not supported by Cúram.	Cúram and procured component to supplement compliance management functionality not supported by Cúram.	No evaluated legacy system provides significant automation capability related to Compliance Management. For Cúram, the requirements as identified in Compliance Management are partially supported through configuration. Compliance Incidents can be established and closed through configuration. Most other functionality is not supported.
Grants Management	No evaluated legacy system effectively automates grants management.	Procure Component as Cúram is not a Grant Management system.	Procure Component as Cúram is not a Grant Management system.	No evaluated legacy system provides a high or moderate level of automation related to Grants Management. Cúram is not a Grant Management system. A reference to an agreement could be included through configuration. Inherent functionality is either not supported (Block Grants applications and reviews) or functionality needs to be configured.
Program Financial Reporting	SSIS for social services. MAXIS for cash, health care, housing, foster care, and food programs.	Outcome of the BI Assessment and Strategy Initiative	Outcome of the BI Assessment and Strategy Initiative	<ul> <li>SSIS automates financial reporting effectively. MAXIS provides some automation around financial reporting.</li> <li>Cúram does not provide functional support for the generation of financial reports. However, State and Local reporting data can be managed through customization.</li> <li>SSIS Financials was proposed as a solution for managing the mapping of service related payments to reporting meaningful at the higher level (e.g., BRASS codes)</li> <li>Ultimately financial reporting will roll up to state accounting systems but level of detail will be a key decision and a differentiator in solutions. A financial analysis and requirements project be conducted early on in the ESM initiative to ensure that key decisions are surfaced in a timely manner.</li> </ul>
Program Reporting	SSIS for social services. MAXIS for cash, health care, housing, foster care, and food programs. MAXIS/MEC2 for Child Care. Legacy BI/Data warehouse may be recommended.	Outcome of the BI Assessment and Strategy Initiative combined with the Cúram reporting module.	Outcome of the BI Assessment and Strategy Initiative combined with the Cúram reporting module.	It has already been determined that a BI Assessment and Strategy initiative will develop a recommendation for the future state BI and DW environment. This could be the current platform or the new Oracle Exadata based platform. The Cúram Reporting feature will most likely require configuration and customization to satisfy all requirements. No functional support is provided for public reporting.
Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3	Comments
---	---	---	--	---
		Components as needed).	for each component).	
Provider Certification and Licensing	No evaluated legacy system provides moderate to highly automated provider certification and licensing, with the possible exception of MnCHOICES for social service assessments.	Cúram	Cúram	MnCHOICES provides a moderate level of automation for provider certification and licensing. For Cúram, functionality is handled through configuration.
Provider and Contractor Information Management	MnCHOICES for social services assessments.	Cúram	Cúram	Out of legacy systems, only MnCHOICES provides moderate or higher levels of automation for both provider and contractor information management.
				For Cúram, functionality is largely met through configuration. DHS may also consider leveraging the future MMIS for provider and contractor information management, or integrating with MMIS if Cúram is used.
Quality Assurance	No evaluated legacy system provides moderate to high levels of automation for Quality Assurance.	Cúram	Cúram	No evaluated legacy system provides robust automation functionality around Quality Assurance. For Cúram, Quality Assurance as pertaining to case reviews is met through configuration. Quality Assurance as related to providers is met through configuration.
Program Oversight				
Marketing and Outreach	No evaluated legacy system provides moderate to high levels of automation for Marketing and Outreach.	Little functional support in Cúram. Procure Component.	Procure Component.	No evaluated legacy systems receives a moderate or higher score in Marketing and Outreach. For Cúram, Outreach functionality is met either through Configuration. Cúram does provide client outreach through the My Account functionality in Universal Access. Additional outreach requires a 3rd party s/w or customization. Outreach rules can be configured. Ultimately, we should think of Cúram providing only a fraction of the vision for marketing and outreach and to utilize more sophisticated elements.

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Performance Monitoring	No evaluated legacy system	Outcome of the Bl	Outcome of the BI	No evaluated legacy system provides moderate to high levels of
	provides moderate to high	Assessment and Strategy	Assessment and Strategy	performance monitoring functionality. The Business Intelligence/ Data
	levels of automation for	Initiative combined with	Initiative combined with	Warehouse analysis may find that DHS has capabilities around
	Performance Monitoring	Cúram configuration	Cúram configuration	Performance Monitoring through its Business Intelligence tools.
				In Performance Evaluation, Cúram does provide functionality via
				configuration. No functional support for the management of
				performance measures and outcome measurements.
Policy and Oversight Management	No evaluated legacy system	Cúram integrated with a	Cúram integrated with a	Evaluated Legacy systems do not score highly in policy and oversight
	provides moderate to high	Document Management	Document Management	management.
	Policy and Oversight	Solution I.e. Flienet.	Solution I.e. Flienet.	For Cúram, program policy can be managed via configuration.
	Management			Governance and Management Support is provided via configuration.
				Resource Management as part of Policy and Oversight is not supported.
				Overarchingly, Cúram is not a policy management tool. Business rules
				will be derived from policy and will be configured in the Cúram-based
				system.
				KPMG notes that displaying policies to stakeholders may need to occur
				outside FileNet. DHS should consider evaluating other content
				management systems.
Program Planning and Management	No evaluated legacy system	Reporting via BI solution,	Reporting via BI solution,	No evaluated legacy system provides moderate to high levels of
	provides moderate to high	Program forecast and	Program forecast and	automation support for program planning and management.
	Program Planning and	budget through curam.	buuget through curam.	For Cúram. Program Management is largely supported via configuration.
	Management			including program rules and eligibility criteria, reference information and
				rate setting.
				The reporting side will most likely be satisfied through the BI solution.
				and capture of program forecast and budget through Cúram.
Service Delivery Components				
Client Management				
Client Information Management	SSIS for Social Services	Cúram	Cúram	County owners indicate that MAXIS and PRISM can provide moderate
	Programs.			levels of automation, while system owners indicate that MnCHOICES is
				capable of providing moderate automation support for Client
				Information Management.
				Functionality is met through configuration as core to Cúram.

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
Client Transfer	PRISM for child support.	Cúram	Cúram	PRISM provides a moderate level of support for processing referrals. In addition, system owners indicate that SSIS and MnCHOICES provide moderate automation support for processing referrals. For Cúram, referrals and client transfers are supported through configuration.
Eligibility and Enrollment				
Appeals Management	No evaluated legacy system provides moderate to high levels of automation for Appeals Management	Cúram	Cúram	No evaluated legacy system scores moderately or above on automation capabilities for Appeals Management. System owners indicate that MnCHOICES may have moderate automation capability in this area. For Cúram, Appeals Management functionality is provided through configuration. KPMG notes that a related RFI has been released. If DHS selects software other than Cúram, software integration will likely be required.
Eligibility Determination	MAXIS/MEC2 for child care and MAXIS for cash, health care, housing, foster care, and food programs	Cúram	Cúram	MAXIS/MEC2 scores moderately and MMIS/ Minnesota Care scores moderately to highly for eligibility determination according to the gap analysis, though KPMG notes that MMIS does not perform eligibility determination. Furthermore, system owners indicate that SSIS and MnCHOICES perform Eligibility Determination moderately well, while county users indicate that MAXIS automates eligibility determination moderately well. Eligibility Determination is a configurable, core Cúram functionality.
Enrollment Management	MAXIS/MEC2 for child care and MMIS/ Minnesota Care for subprograms related to Medicaid*	Cúram	Cúram	MAXIS/MEC2 scores moderately and MMIS/ Minnesota Care scores moderately to highly for enrollment management. Furthermore, system owners indicate that SSIS and MnCHOICES perform Eligibility Determination moderately well, while county users indicate that MAXIS automates enrollment management moderately well. Enrollment Management is a configurable, core Cúram functionality.

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
Needs Assessment	MnCHOICES and SSIS for social services programs.	Cúram	Cúram	MnCHOICES scores highly and SSIS receives moderate scores for its automation support around assessments. However, MnChoices has not yet been implemented - the rating is based on the version under development. County respondents indicate that MAXIS, MAXIS/MEC2, and MMIS/ Minnesota Care provide moderate automation support for assessments.
				Needs Assessment is a configurable, core Cúram functionality.
Service Management		- /		
Case Management	No evaluated legacy system provides moderate to high levels of support for case management.	Curam	Curam	No evaluated DHS legacy system receives high marks in distributed client management from both counties and system owners. County users indicate that PRISM provides moderate automation for case management. System owners say that SSIS and MnCHOICES have moderate automation capability.
				investment in configuration.
Caseload Management	No evaluated legacy system provides moderate to high levels of support for caseload management.	Cúram	Cúram	No evaluated DHS legacy system provides moderate or high levels of support for caseload management. System owners indicated that MnCHOICES has potential to provide moderate levels of support. Caseload Management in Cúram is configurable via Supervisor Workspace.
Claims Management	No evaluated legacy system provides moderate to high levels of support for claims management.	Cúram	Cúram	No evaluated DHS legacy system provides moderate or high levels of automation support for claims management. System owners indicated that MMIS/ Minnesota Care supports a moderate level of automation support. Claims Management in Cúram (including overpayment claims) is largely met through configuration. KPMG notes that, in this instance, claims refers to recipient claims, not provider claims.

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
Clinical Management	Phoenix and Avatar currently provide this functionality. Those systems were not assessed because they are considered out of scope. Solution should integrate with Phoenix and Avatar.	Phoenix and Avatar currently provide this functionality. Those systems were not assessed because they are considered out of scope. Solution should integrate with Phoenix and Avatar.	Phoenix and Avatar currently provide this functionality. Those systems were not assessed because they are considered out of scope. Solution should integrate with Phoenix and Avatar.	This is out-of-scope for the Modernization plan, other than any integration with Phoenix and Avatar.
Complaint Management	No evaluated legacy system provides moderate to high levels of support for complaint management.	Cúram	Cúram	No evaluated legacy system provides moderate to high levels of support for complaint management. Complaints are supported through configuration in Cúram via the Appeals Management module. Configuration and/or customization may be required for provider complaints.
Funds Allocation	PRISM for child support.	Cúram via configuration as well as custom-coded extension.	Cúram in combination with PRISM financial capabilities.	System owners indicated PRISM is highly proficient at automating funds allocation. County users indicated that no system is effective at automating funds allocation. If DHS elects to keep PRISM, it may need to port PRISM to a LINUX or Windows O/S to move away from a mainframe platform. Allocations can be configured via Cúram Funded Program Management. No functional support is provided for the actual management of funds.

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3	Comments
		Components as needed).	for each component).	
Payment Calculation	MAXIS for cash, health care, housing, foster care, and food programs. SSIS for social services. MAXIS/MEC2 for child care. PRISM for child support.	Cúram	Cúram in combination with PRISM, MAXIS, and/or MAXIS/MEC2.	As a recommendation for this project, we recommend that DHS consider consolidating payments currently handled at the county level to be handled by DHS. Note that this change would require legislative action. Under that assumption, legacy systems that could be used are MAXIS, PRISM, and MAXIS/MEC2. SSIS currently handles financial transactions at the county level - this functionality would no longer be required. MAXIS, SSIS, and MAXIS/MEC2 all provide moderate to high levels of automation around payment calculation. Furthermore, county users indicate that PRISM provides a high degree of automation support, while system owners say that MMIS/ Minnesota Care provides moderate automation support. Client payments are managed in Cúram via configuration - considerable configuration would be required to handle Minnesota's complex accounting for payments. DHS should complete a study to determine whether legacy system functionalities could be consolidated to a single system and whether Cúram can be adequately extended to meet DHS's needs.
Payments, Collections & Recovery Management	No evaluated legacy system provides moderate to high levels of support for payments, collections & recovery management.	Cúram	Cúram	While no individual evaluated system provides moderate to high levels of support for payments, collections, & recovery management, individual systems may be capable of meeting certain parts. SSIS and PRISM both score highly with county users and system owners for payments management, though they receive low marks for automation support around collections and recovery. For Cúram, Funds Collection and disbursement as well as recovery management are largely met via configuration.
Service and Funding Approval	No evaluated legacy system provides moderate to high levels of support for service and funding approval.	Cúram	Cúram	While no evaluated legacy system scores moderately to highly in overall automation support for service and funding approval, SSIS and MnCHOICES receive moderate marks from system owners. The approval of services as part of a service plan and inherent funding are provided through configuration in Cúram.

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
Service Planning and Monitoring	SSIS and MnCHOICES for Social Services. PRISM for child support.	Cúram	Cúram	SSIS and MnCHOICES score moderately to highly in service planning. Furthermore, PRISM provides moderate levels of support for its ability to automate service plan reviews and updates. Service Planning is a core and configurable functionality to Cúram. Client and Service Plan outcomes are also supported via configuration.
Waitlist Management	No evaluated legacy system provides moderate to high levels of support for waitlist management.	Cúram	Cúram	No evaluated legacy system provides moderate to high levels of support for waitlist management. System owners indicate that MAXIS/MEC2 also has moderate automation support for waitlist management. Waitlist functionality can be configured in Cúram.
Business Management Components				
Corporate Services				
Business Agreement Management	No evaluated legacy system provides moderate to high levels of support for Business Agreement Management.	Contract management acquired software integrated with customized Cúram	Contract management acquired software integrated with customized Cúram	No evaluated legacy system provides moderate to high levels of support for Business Agreement Management. Cúram does not provide a wide range of business agreement functionality. It can be used to store information about providers and business agreements.
Contract Management	No evaluated legacy system provides moderate to high levels of support for Contract Management.	Contract management acquired software integrated with customized Cúram	Contract management acquired software integrated with customized Cúram	No evaluated legacy system provides moderate to high levels of support for Business Agreement Management. Cúram does not provide a wide range of contract management functionality. It can be used to store information about providers and contracts.
Education and Training	No evaluated legacy system provides moderate to high levels of support for Education and Training.	Leverage Oracle's Learning Management System.	Leverage Oracle's Learning Management System.	No evaluated legacy system provides moderate to high levels of support for Communications, Education, and Training. Cúram does not provide functional support for functionality as part of the Education and Training component. DHS should consider using Oracle's Learning Management System.
Common Business Components				
Collaboration				

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Business Integration	SSIS for Social Services. PRISM for child support.	Custom-configured series of adapters, some of which may be procured and configured. Some adapters may have to be custom- built.	Custom-configured series of adapters, some of which may be procured and configured. Some adapters may have to be custom- built.	<ul> <li>SSIS and PRISM rate moderately to highly for automating communications with other relevant State and Federal organizations.</li> <li>System owners indicate that MAXIS, MAXIS/MEC2, SMI, MnCHOICES, and the Data Warehouse all have certain capabilities around automating business integration.</li> <li>Cúram provides system integration components such as an ESB and Webservices. Cúram did not indicate whether or not it supports integration management as related to interface configurations and integration content processing.</li> <li>Business integration will be largely provisioned through service development and integration to external systems using DHS's ESB.</li> <li>Furthermore, DHS should contemplate leveraging the integration architecture defined for the HIX, including building SOA-interfaces.</li> </ul>
Communications Management	No evaluated legacy system provides moderate to high levels of support for Communications Management.	Cúram	Cúram	No evaluated legacy system provides moderate to high levels of support for Communications, Education, and Training. Client and provider communications are managed using configuration through Cúram. Communication Rules are also supported using configuration through Cúram.
Contact Center	No evaluated legacy system provides moderate to high levels of support for Communications Management.	Leverage HIX	Leverage HIX	No legacy systems we assessed provide moderate to high levels of support for Communications, Education, and Training. KPMG is still assessing Cúram's ability to support a call center. KPMG notes that the Contact Center component will be used to manage the communication channel, but not to manage cases. KPMG is awaiting more information from DHS on potential existing systems that could be utilized for the Contact Center.
Administration		- /	- /	
User Administration	ISSIS for social services	Curam	Curam	For evaluated legacy systems, only SSIS scores highly in all five components listed under Identity and Access Management.
				The management and set up of user access privileges is configurable functionality in Cúram.
Information Management				

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Leverage Cúram (includes	Use a Hybrid Approach (the	
		Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Document Management	No evaluated legacy system	FileNet integrated with	FileNet integrated with	No evaluated legacy system provides moderate to high levels of support
	provides moderate to high	Cúram.	Cúram.	for Records and Document Management
	levels of support for			
	Records and Document			Cúram and FileNet score highly in document management which includes
	Management			the management of surveys and survey templates.
Knowledge and FAQ Management	SSIS for social services.	FileNet integrated with	FileNet integrated with	SSIS provides a high degree of support for Knowledge Management.
		Cúram.	Cúram.	Furthermore, it appears this component can be extended to other
				systems.
				The FileNet and Web Content Management solutions identified would be
				satisfactory for Knowledge and FAQ Management.
Master Data Management	SSIS for social services.	Outcome of the BI	Outcome of the BI	SSIS provides a high degree of support for Master Data Management.
		Assessment and Strategy	Assessment and Strategy	Furthermore, MAXIS, PRISM, MAXIS/MEC2, and SMI provide some degree
		Initiative and/or leverage	Initiative and/or leverage	of support for Master Data Management.
		ніх	ніх	
				Cúram appears to support data dictionaries, but does not provide
				support for master data management functions such as data
				standardization and deduplication.
Metadata Management	SSIS for social services.	Outcome of the BI	Outcome of the BI	SSIS provides a high degree of support for Metadata Management.
		Assessment and Strategy	Assessment and Strategy	Furthermore, it appears this component can be extended to other
		Initiative and/or leverage	Initiative and/or leverage	systems.
		ніх	ніх	
				Alternatively, DHS may elect to rely upon the HIX for metadata
				management.
				Cúram does not appear to provide for Metadata Management.
Master Person Registry	SMI for all programs.	Cúram	SMI	SMI, MAXIS, and MAXIS/MEC2 all provide a high degree of support for
	MAXIS and MAXIS/MEC2			Master Person Registry. SSIS and PRISM provide a more limited degree
	could also potentially be			of support.
	used for cash, health care,			
	housing, foster care, and			Cúram scores highly and provides robust support for Master Person
	food programs.			Registry. If Cúram is used as the Master Person Registry, DHS would
				need to migrate all SMI cross-reference data into Cúram, and integrate
				all external systems with Cúram.

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Leverage Cúram (includes	Use a Hybrid Approach (the	
		Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Pacards Managament	No evaluated legacy system	FileNet for documents with	FileNet for documents with	No legacy system provides moderate to high levels of support for
	nrovides moderate to high	structured data records	structured data records	Records and Document Management
	levels of support for	management supported on	management supported on	
	Records and Document	an application by	an application by	FileNet is the most likely possibility outside of the already-completed gap
	Management	annlication basis	annlication basis	analysis since DHS already has it. DHS may need to analyze its existing
	management			FileNet canabilities and acquire additional FileNet components for
				Records Management.
				Cúram scores high in records management which includes the
				management of surveys and survey templates. However, the assessment
				is not considered to be entirely accurate. Curam does not contain
				comprehensive records management capabilities.
				DHS has many unmet requirements for Records Management. DHS
				needs to determine at which point in the roadmap to address Records
				Management requirements.
Web Content Management	SharePoint and Tridion	Tridion	Tridion	Cúram does provide robust support for content management including
				the storing and retrieving of content.
				Curam is not a WCM platform. One could be provisioned or a state
				standard adopted.
				KPMG notes that DHS has SharePoint and Tridion available, though these
				systems were not assessed during the gap analysis. Tridion is the State's
				standard for Content Management.
Workflow and Rules Management				
Rules Management	ILOG	Cúram for eligibility, case	Cúram for eligibility, case	No evaluated legacy system provides high levels of support for Business
		management, and service	management, and service	Rules Management. MAXIS, SSIS, and MAXIS/MEC2 all provide limited
		delivery rules and Drools for	delivery rules and Drools for	levels of support for Business Rules Management.
		master data management.	master data management.	Cúram searas highly and provides reduct support for husiness rules
				curan scores night and provides robust support for business fules
				solution.
				For Alternatives 3 and 4, DHS should use Cúram where feasible, and then
				use Drools for areas outside of Cúram.

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Leverage Cúram (includes	Use a Hybrid Approach (the	
		Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Workflow Management	No evaluated legacy system	Cúram for orchestrating	Cúram for orchestrating	No evaluated legacy system provides high levels of support for Workflow
	provides high levels of	workflow within Cúram	workflow within Cúram	Management.
	support for Workflow	components.	components.	
	Management.			Cúram scores highly and provides robust support for business process
		FileNet when related to	FileNet when related to	management including the management of workflow rules.
		document and records	document and records	
		management and other	management and other	FileNet is also a very effective product to support Workflow
		workflow requirements	workflow requirements	Management and can be used beyond just workflow for documents - it is
		outside of Cúram.	outside of Cúram.	an adequate general workflow management solution.
		ActiveVOS is also included		
		in the HIX stack, but its use		
		is TBD.		
Technical Application Components				
Technical Support Components				
Application Development Lifecycle				
Management				
Application Development Frameworks	Java, .NET (C#)	Java and .NET (C#, VB)	Java and .NET (C#, VB)	DHS currently uses NATURAL, Delphi, and C#.
& Tools				
		Leverage HIX for additional	Leverage HIX for additional	Cúram utilizes Java and C#
		development tools.	development tools.	
				DHS may also elect to leverage the HIX development environment for
				additional development tools.

Component Le	Alternative 2: .everage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
Application Development Environment		Leverage HIX software including: Apache Ant Apache Maven Apache Tomcat Confluence Wiki Oracle SQL Developer Sparx Enterprise Architect Eclipse Indigo IDE Greenhopper Scrum Add In IBM Integration Developer Jenkins Continuous Integration Jira Big Track and Project Tool Rational Application Developer Rational Architect Selenium IDE Subclipse Teeid Designer Teiid VBP Developer WTX Design Studio	Leverage HIX software including: Apache Ant Apache Maven Apache Tomcat Confluence Wiki Oracle SQL Developer Sparx Enterprise Architect Eclipse Indigo IDE Greenhopper Scrum Add In IBM Integration Developer Jenkins Continuous Integration Jira Big Track and Project Tool Rational Application Developer Rational Architect Selenium IDE Subclipse Teeid Designer Teiid VBP Developer WTX Design Studio	

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Leverage Cúram (includes	Use a Hybrid Approach (the	
		Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Application Testing Management		Lovorago HIV coftwaro	Loverage HIV coftware	
Application resting Management				
		Confluence Wiki	Confluence Wiki	
		Spary Enterprise Architect	Spary Enterprise Architect	
		Greenhonner Scrum Add In	Greenhonner Scrum Add In	
		lira Big Track and Project	lira Big Track and Project	
		Rational Architect	Rational Architect	
		Rational Functional Tester	Rational Functional Tester	
		Rational Performance	Rational Performance	
		Tester	Tester	
		TOAD	TOAD	
Business Intelligence and Data				
Warehouse				
Business Intelligence/Analytics	The underlying technologies	Outcome of the BI	Outcome of the BI	The underlying technologies supporting MAXIS and MAXIS/MEC2 provide
	supporting MAXIS and	Assessment and Strategy	Assessment and Strategy	a high level of support for Business Intelligence and Analytics for
	MAXIS/MEC2 for cash,	Initiative	Initiative	supported programs.
	health care, housing, foster			
	care, and food programs			A separate analysis is scheduled for DHS's Business Intelligence and Data
				Warehouse capabilities. Based on that study, additional data warehouse
				capabilities may be identified.
				Cúram scores highly in Business Analytics, so it and other components
				will likely have some limited leverageable reporting capabilities
				with the y have some timited level ageable reporting capabilities.
Data Warehouse	Legacy Teradata Data	Outcome of the BI	Outcome of the BI	While the legacy Teradata data warehouse was not measured
	Warehouse for all programs	Assessment and Strategy	Assessment and Strategy	extensively through the gap analysis, it may have viability to serve as
		Initiative	Initiative	DHS's data warehouse moving forward. KPMG will conduct a separate,
				more detailed analysis of the system's capabilities.
Confidentiality Management				

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
Anonymization	No evaluated legacy system provides high levels of support for Anonymization.	TBD dependent on outcome of BI strategy analysis	TBD dependent on outcome of BI strategy analysis	No evaluated legacy system provides high levels of support for Anonymization. Cúram does not appear to provide support for Anonymization as part of Confidentiality Management. DHS may elect to rely on the HIX for Anonymization. An additional solution may emerge based on the BI strategy analysis.
Encryption	The underlying technologies supporting MAXIS for cash, health care, housing, foster care, and food programs. The underlying technologies supporting SSIS for social services. The underlying technologies supporting MAXIS/MEC2 for child care.	Leverage HIX (TBD)	Leverage HIX. DHS could also consider using the technology supporting MAXIS, SSIS, and MEC2.	The underlying technologies supporting MAXIS, SSIS, AND MAXIS/MEC2 all provide a high degree of support for encryption. Cúram does not appear to provide support for Encryption as part of Confidentiality Management. DHS may also elect to utilize the HIX for encryption. KPMG notes that encryption is likely to occur at the data or network levels.
Data Management				
Data Transformation	Legacy data warehouse environment.	TBD dependent on outcome of BI strategy analysis (HIX stack includes Informatica)	TBD dependent on outcome of BI strategy analysis (HIX stack includes Informatica)	The underlying technologies supporting SSIS provides a high degree of support for data transformation. The underlying technologies supporting MAXIS, PRISM, MAXIS/MEC2, and the data warehouse provide a limited degree of support for data transformation. The Data Warehouse may provide more robust capabilities; KPMG will analyze the data warehouse's data transformation potential during the separate BI analysis. Cúram provides support for data transformation including ETL scripts and schedules. DHS may also elect to utilize Informatica (not assessed during gap analysis) or rely on the HIX.

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
component	Leverage Existing Systems	Leverage Cúram (includes	Use a Hybrid Approach (the	connents
	Leverage Existing Systems	Procurement of Additional	best of Alternatives 2 & 3	
		Components as peeded)	for each component)	
		components as needed).	for each component).	
Structured Data Management	Legacy data warehouse	-TBD dependent on	-TBD dependent on	
· · · · · · · · · · · · · · · · · · ·	environment.	outcome of BI strategy	outcome of BI strategy	
		analysis Key elements	analysis Key elements	
		should include:	should include:	
		-Data Validation against	-Data Validation against	
		pre-defined editing rules	pre-defined editing rules	
		-Reformatting and	-Reformatting and	
		Reorganizing the data	Reorganizing the data	
		-Resolving missing data	-Resolving missing data	
		elements using external	elements using external	
		sources, intranet, etc.	sources, intranet, etc.	
		-Removing erroneous	-Removing erroneous	
		data elements	data elements	
		-De-duplication of	-De-duplication of	
		records	records	
		-Merging data sources	-Merging data sources	
		-Data translation & cross	-Data translation & cross	
		referencing	referencing	
		-Data cleansing	-Data cleansing	
	1	TDD dag and ant an	TDD dagaadaat aa	
Unstructured (Big) Data Management	Legacy data warehouse	-IBD dependent on	- I BD dependent on	
	environment.	outcome of BI strategy	outcome of BI strategy	
		analysis key elements	analysis key elements	
		should include:	should include:	
		-Aglie and optimized	-Aglie and optimized	
		administration, tuning and	administration, tuning and	
		Gimelife engligation	Circulify application	
		-Simplify application	-Simplify application	
		Highly available		
			-righty available	
		-Easily Staldble and	-Easily scalable and	
		-Security components	-Socurity components	

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Leverage Cúram (includes	Use a Hybrid Approach (the	
		Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Authentication	The underlying technologies	Leverage HIX	Leverage HIX	The underlying technologies supporting SMI provides a high degree of
	supporting SMI for all	-	-	support for authentication. The underlying technologies supporting
	programs.	(Oracle Identity Access	(Oracle Identity Access	MAXIS, SSIS, PRISM, and MAXIS/MEC2 provide limited authentication
		Management,	Management,	support.
		LDAP)	LDAP)	
				Cúram scores highly and largely provides support for authentication, but
				in the area of compliance management.
				DHS may also elect to rely on the HIX.
Authorization	The underlying technologies	Leverage HIX	Leverage HIX	The underlying technologies supporting SSIS and SMI provide a high
	supporting SSIS for social			degree of support for authorization. PRISM also provides limited support
	services programs and SMI	(Oracle Identity Access	(Oracle Identity Access	for authorization.
	for all programs.	Management)	Management)	
				Cúram and related HIX technologies score highly in authorization
				support.
Digital Signatures	The underlying technologies	Leverage HIX	Leverage HIX	The underlying technologies supporting SSIS and SMI provide a high
	supporting SSIS for social			degree of support for digital signatures. MAXIS/MEC2 also provides
	services programs and SMI			limited support for digital signatures
	for all programs.			
				Curam and related HIX technologies are assumed to provide robust
I dentitus Bilene economi	The underlying technologies			support for Digital Signatures.
Identity Management	The underlying technologies	Leverage HIX	Leverage HIX	The underlying technologies supporting MAXIS, SSIS, SMI, and the Data
	health care housing foster	(Oracle Identity Access	(Oracle Identity Access	The underlying technologies supporting MAXIS/MEC2 and PRISM provide
	care and food programs	Management)	(Oracle Identity Access Management)	limited support for identity management
	The underlying technologies	managementy	inanagementy	initied support for identity management.
	supporting SSIS for social			Cúram and related HIX technologies are assumed to provide robust
	services. The underlying			support for Identity Management.
	technologies supporting			
	SMI and the Data			
	Warehouse for all			
	programs.			

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes	Alternative 4: Use a Hybrid Approach (the	Comments
		Procurement of Additional Components as needed).	best of Alternatives 2 & 3 for each component).	
Privilege Management	The underlying technologies supporting SSIS for social services.	Leverage HIX	Leverage HIX	The underlying technologies supporting SSIS provides a high degree of support for privilege management. MAXIS, MAXIS/MEC2, PRISM, and SMI provide limited support for privilege management. Cúram and related HIX technologies scores highly and provides robust support in Privilege Management. DHS may also elect to rely on the HIX.
IT Management				
Change Management		Leverage current Service Management System for Service Management Other alternatives include: ServiceNow and Remedy	Leverage current Service Management System for Service Management Other alternatives include: ServiceNow and Remedy	
Service Asset and Configuration Management		Leverage current Service Management System for Service Management Other alternatives include: ServiceNow and Remedy	Leverage current Service Management System for Service Management Other alternatives include: ServiceNow and Remedy	
Release and Deployment Management		Leverage HIX Software: Tortois SVN Ultra Edit SVN Veracode	Leverage HIX Software: Tortois SVN Ultra Edit SVN Veracode	
Incident Management		Leverage current Service Management System for Service Management Other alternatives include: ServiceNow and Remedy	Leverage current Service Management System for Service Management Other alternatives include: ServiceNow and Remedy	
Problem Management		Leverage current Service Management System for Service Management Other alternatives include: ServiceNow and Remedy	Leverage current Service Management System for Service Management Other alternatives include: ServiceNow and Remedy	
Capacity Management		Leverage HIX Tools: Refer to Alerting and Monitoring Tools for Infrastructure	Leverage HIX Tools: Refer to Alerting and Monitoring Tools for Infrastructure	

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Leverage Cúram (includes	Use a Hybrid Approach (the	
		Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Availability Management		Leverage HIX Tools:	Leverage HIX Tools:	
		Refer to Alerting and	Refer to Alerting and	
		Monitoring Tools for	Monitoring Tools for	
		Infrastructure	Infrastructure	
IT Service Continuity Management		Leverage HIX Tools:	Leverage HIX Tools:	
		Refer to Alerting and	Refer to Alerting and	
		Monitoring Tools for	Monitoring Tools for	
		Infrastructure	Infrastructure	
IT Operations Management	TBD	TBD	TBD	
Service Desk Management	DHS currently uses BMC	Leverage HIX or continue to	Leverage HIX or continue to	
	Service Desk Express - not	use BMC Service Desk	use BMC Service Desk	
	within scope of our	Express	Express	
	evaluation			
Infrastructure				
Application System Components	Leverage HIX (Websphere	Leverage HIX	Leverage HIX	
	Application Server)			
		(Websphere Application	(Websphere Application	
		Server Network	Server Network	
		Deployment,	Deployment,	
		Hibernate,	Hibernate,	
		Struts,	Struts,	
		Cloudera CDH4,	Cloudera CDH4,	
		IBM HTTP Server)	IBM HTTP Server)	
Middleware OS	RHEL, z/OS, Windows	RHEL, Windows	RHEL, Windows	Cúram utilizes RHEL.
				Note: This component refers to the server operating system
Middleware RDBMS	Variable	Oracle Enterprise Edition &	Oracle Enterprise Edition &	SSIS, SMI, and the Data Warehouse utilize robust RDBMS capabilities.
		Real Application Cluster	Real Application Cluster	PRISM utilizes moderate RDBMS capabilities.
		(RAC)	(RAC)	The DDDMC will be fourth an analysis of an discrimination of the Arche
		Oracle Secure distributed	Oracle Secure distributed	The RDBMS will be further researched and analyzed during RPMG's
		database replication	database replication	separate Data Warehouse/BI analysis project.
		Oracle Encrypt Backups -	Oracle Encrypt Backups -	The DDDMC and he of some second bights
		RIMAN	RIVIAN	The RDBMS used by Curam scores highly.
		Oracle virtual Directory	Oracle Virtual Directory	

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
	Leverage Existing Systems	Leverage Cúram (includes	Use a Hybrid Approach (the	
		Procurement of Additional	best of Alternatives 2 & 3	
		Components as needed).	for each component).	
Servers	Leverage HIX Infrastructure	Leverage HIX Infrastructure	Leverage HIX Infrastructure	
	Virtual Instances for each	Virtual Instances for each	Virtual Instances for each	
	application server under an	application server under an	application server under an	
	IBM BladeCenter Hardware.	IBM BladeCenter Hardware.	IBM BladeCenter Hardware.	
Storage	Leverage HIX Infrastructure	Leverage HIX Infrastructure	Leverage HIX Infrastructure	
	IBIVI Storage SAN system	IBINI Storage SAN system	IBM Storage SAN system	
	that provides logical	that provides logical	that provides logical	
	anocation of storage to	anocation of storage to	anocation of storage to	
	each virtual Instance	each virtual instance	each virtual instance	
	individually	individually	individually	
Network		-For client information	-For client information	
		access, an Internet secure	access, an Internet secure	
		channel via HTTPS or secure	channel via HTTPS or secure	
		Sockets to access Portal and	Sockets to access Portal and	
		Mobile applications	Mobile applications	
		-Internal access for Federal,	-Internal access for Federal,	
		Hearing, DHS Service	Hearing, DHS Service	
		Delivery, Client and virtual	Delivery, Client and virtual	
		locations connected via a	locations connected via a	
		secure WAN channel	secure WAN channel	
		(extranet configuration).	(extranet configuration).	
		WAN channel is configured	WAN channel is configured	
		as a secure communication	as a secure communication	
		link between locations,	link between locations,	
		however portal and mobile	however portal and mobile	
		requests will still have	requests will still have	
		HTTPS and Secure Socket	HTTPS and Secure Socket	
		capability	capability	

Component	Alternative 2:	Alternative 3:	Alternative 4:	Comments
component	Leverage Existing Systems	Leverage Cúram (includes	Lise a Hybrid Approach (the	comments
	Levelage Existing Systems	Procurement of Additional	hest of Alternatives 2 & 3	
		Components as needed)	for each component)	
		components as needed).	for each componentj.	
Alerting & Monitoring	-Windows Middleware OS	-IBM Tivoli for monitoring	-IBM Tivoli for monitoring	
	and other system	application, ESB,	application, ESB,	
	components are monitor via	Websphere and MQ	Websphere and MQ	
	SCOM and SCM tools	-Windows Middleware OS	-Windows Middleware OS	
		and other system	and other system	
		components are monitor via	components are monitor via	
		SCOM and SCM tools	SCOM and SCM tools	
		-RedHat Middleware OS and	-RedHat Middleware OS and	
		Network monitoring tools	Network monitoring tools	
		are Net-SNMP	are Net-SNMP	
		-Logging will be performed	-Logging will be performed	
		with rsyslog	with rsyslog	
Intrusion Management				
Audit	The underlying technologies	Oracle Database Hardening -	Oracle Database Hardening -	The underlying technologies supporting SSIS and the Data Warehouse
	supporting SSIS for social	Data Vault	Data Vault	provide broad audit capabilities. MAXIS, PRISM, MAXIS/MEC2, and SMI
	services and the Data	Audit Vault	Audit Vault	provide more limited audit functionality.
	Warehouse for all			
	programs.			As part of audit functionality, Cúram provides security audit logs.
				DHS could also elect to rely on the HIX to provide audit support.
Intrusion Prevention	The underlying technologies	vShield	vShield	The underlying technologies supporting SMI provides broad intrusion
	supporting SMI for all			prevention support. SSIS provides more limited support for intrusion
	programs.			prevention.
				Cúram does not appear to provide support for Intrusion Prevention.
System Interoperability Management				
-,,,				
Data Integration Management	The underlying technologies	Leverage HIX	Leverage HIX	The underlying technologies supporting MAXIS and MAXIS/MEC2 provide
	supporting MAXIS for cash,			robust support for data integration management. The underlying
	health care, housing, foster	(Informatica)	(Informatica)	technologies supporting SSIS and SMI provide more limited support for
	care, and food programs.			data integration management.
	MAXIS/MEC2 for child care.			
				Cúram works with integration technologies to support integration
				management as related to interface configurations and integration
				content processing.

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
System Integration Management	The underlying technologies supporting MAXIS for cash, health care, housing, foster care, and food programs. MAXIS/MEC2 for system integration management.	HIX ESB (Active VOS JBoss EDS WebSphere ESB WebSphere MQ WebSphere Service Registry and Repository WS-Security/TP Management)	HIX ESB (Active VOS JBoss EDS WebSphere ESB WebSphere MQ WebSphere Service Registry and Repository WS-Security/TP Management)	The underlying technologies supporting MAXIS and MAXIS/MEC2 provide robust support for data integration management. SSIS and SMI provide more limited support for system integration management. Cúram works with system integration components such as an ESB and Webservices.
Workflow and Rules Processing				
Rules Processing	ILOG	Cúram for eligibility, case management, and service delivery rules and Drools for master data management.	Cúram for eligibility, case management, and service delivery rules and Drools for master data management.	No evaluated legacy system provides high levels of support for Business Rules Management. MAXIS, SSIS, and MAXIS/MEC2 all provide limited levels of support for Business Rules Management. Cúram scores highly and provides robust support for business rules management. However, it is not an externalized rules management solution. For Alternatives 3 and 4, DHS should use Cúram where feasible, and then use Drools for areas outside of Cúram.
Workflow Processing	No evaluated legacy system provides high levels of support for Workflow Management.	Cúram for orchestrating workflow within Cúram components. FileNet when related to document and records management and other workflow requirements outside of Cúram. ActiveVOS is also included in the HIX stack, but its use is TBD.	Cúram for orchestrating workflow within Cúram components. FileNet when related to document and records management and other workflow requirements outside of Cúram.	No evaluated legacy system provides high levels of support for Workflow Management. Cúram scores highly and provides robust support for business process management including the management of workflow rules. FileNet is also a very effective product to support Workflow Management and can be used beyond just workflow for documents - it is an adequate general workflow management solution.
Communications Interface				
Components				
Access				
Kiosk		TBD	TBD	The requirement for this platform has not been confirmed.

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
Mobile	No evaluated legacy system provides high levels of support for mobile access.	Cúram / HIX Technologies supplemented with customization if required	Cúram / HIX Technologies supplemented with customization if required	No evaluated legacy system provides high levels of support for mobile access. Cúram does support the use of mobile devices for access to services to a limited extent. DHS may choose to wait for Cúram to provide additional support for Mobile technologies (recommended), or provide customized mobile functionality.
Portal	The underlying technologies supporting SMI for all programs.	Leverage HIX	Leverage HIX	The underlying technologies supporting SMI provides robust portal capabilities. The underlying technologies supporting MAXIS/MEC2 provides limited portal capabilities. Cúram and related HIX technologies are assumed to provide a portal (including client and provider) as part of its solution.
Unified Communications				
E-Mail	The underlying technologies supporting SSIS for social services.	Leverage HIX supplemented by Outlook.	Leverage HIX supplemented by Outlook.	The underlying technologies supporting SSIS provides a high level of email support. Cúram and related HIX technologies are assumed to provide support for email as an access method to DHS services. For external email, integrate with Cúram. Internal email will likely use Outlook.
Fax	No evaluated legacy system provides high levels of support for fax.	If outbound, use legacy technology. If internal, use adapter.	If outbound, use legacy technology. If internal, use adapter.	No evaluated legacy system provides high levels of support for fax. Cúram and related HIX technologies are assumed to provide support for fax as an access method to DHS services. Consider using legacy technology outside of the systems KPMG evaluated.
IVR	No evaluated legacy system provides high levels of support for IVR.	Leverage HIX	Leverage HIX	No evaluated legacy system provides high levels of support for IVR. PRISM provides a moderate level of IVR support. KPMG is awaiting more information from DHS on potential existing systems that could be utilized for the IVR. It is assumed that the technology selected for the HIX contact centre will be able to be leveraged. This study is underway now.

Component	Alternative 2: Leverage Existing Systems	Alternative 3: Leverage Cúram (includes Procurement of Additional Components as needed).	Alternative 4: Use a Hybrid Approach (the best of Alternatives 2 & 3 for each component).	Comments
Text Messaging	No evaluated legacy system provides high levels of support for text messaging.	Leverage HIX	Leverage HIX	No evaluated legacy system provides high levels of support for text messaging. Cúram and related HIX technologies are assumed to provide support for text messaging as an access method to DHS services. KPMG is awaiting more information from DHS on potential existing systems that could be utilized for text messaging. It is assumed that the technology selected for the HIX contact centre will be able to be leveraged. This study is underway now.



# **State of Minnesota**

# Department of Human Services

Enterprise Systems Modernization Cost Benefit Analysis Report

FINAL

kpmg.com

# Purpose of this document

The purpose of this report is to determine the benefits, efficiencies, and cost reductions through an integrated human services system realized by various stakeholders. The Cost Benefit Analysis Report is a key deliverable to help make the case for investment in modernization to the State and the Federal government. The results of the cost benefit analysis will be used to define benefits, risks, and cost avoidance areas for alternatives for the target architecture, to determine the impact of alternatives on DHS operating costs, and to identify and build actions into the Transformation Roadmap in support of DHS's future state vision.

# **Document History**

Version	Description	Date
1.0	First TOC and Outline	December 7, 2012
2.0	Further Changes	February 11, 2013
3.0	Adding Context	February 18, 2013
4.0	Comments on Context	February 18, 2013
5.0	Adding Context	February 18, 2013
6.0	Comments on Context	February 27, 2013
7.0	Edits to Cost Section	March 28, 2013
8.0 - 11.0	Incorporating Jennifer's edits and comments	May 10, 2013



# Table of Contents

#### Table of Contents

<ol> <li>Introduction</li> <li>Project Mandate</li> <li>Project Scope</li> <li>Purpose of this Report</li> <li>Approach to developing Cost Benefit Analysis Report</li> <li>Survey Completion Assumptions and Constraints</li> </ol>	3 3 3 4 5 6		
<ul> <li>2 Executive Summary</li> <li>2.1 Report Overview</li> <li>2.2 Modernization Legislative History</li> <li>2.3 Why the State needs to modernize</li> <li>2.4 How the investment in systems modernization will help Minnesotans</li> <li>2.5 Projected Modernization Costs</li> <li>2.6 Modernization Strategic Considerations</li> </ul>	7 7 8 8 10 10		
<ul> <li>3 Benefit Analysis</li> <li>3.1 Benefits to Clients</li> <li>3.2 Benefits to Counties</li> <li>3.3 Benefits to the State</li> <li>3.4 Benefits to the Federal Government</li> <li>3.5 Benefits to other Stakeholders</li> </ul>	11 11 12 13 15		
<ul> <li>4 Benefit Survey Results/Strategic Considerations</li> <li>4.1 County Benefit Survey Responses</li> <li>4.2 BADT Benefit Survey Responses</li> <li>4.3 Benefits for Quantification</li> <li>4.4 Strategic Considerations</li> </ul>	16 16 18 20 22		
5 Cost Summary	24		
Appendices	25		
Appendix A: Sample Survey Comments			
Appendix B: Additional Benefits Additional Benefits to Counties (identified by counties via survey response) Additional Benefits to Clients (identified by counties via survey response)			
Appendix C: Key Features of the ESM Architecture			
Appendix D: County Survey Responses			

1

1

# List of Figures

No table of figures entries found.

## Disclaimer

The purpose of this report is to document observations that came to our attention during our work and to offer our comments and recommendations for the State of Minnesota's consideration. Our procedures consisted of inquiry, observation, and analysis of provided information. Such work does not constitute an audit. Accordingly, we express no opinion on financial results, processes, other information or internal controls. The State of Minnesota is responsible for the decisions to implement any recommendations and for considering their impact. This report is meant solely for use by the State of Minnesota and may not be reproduced or shared with any third party without KPMG's consent except as may be allowed by the terms of our contract agreement.



# **1** Introduction

# 1.2 Project Mandate

DHS has engaged KPMG to assist the Department in moving forward with its vision for an integrated human services delivery system and Enterprise Systems Modernization.

Specifically this initiative is intended to develop a strategic plan and roadmap for Enterprise Systems Modernization that supports DHS's vision for state-wide integrated human services delivery.

# 1.3 Project Scope

The project scope includes the development of the following key deliverables:

- Funding Approach
- Requirements Analysis
- Cost/Benefit Analysis (this report)
- Feasibility Study
- Alternatives Assessment
- Transformation Roadmap
- Request for Proposal Outline

As part of the Enterprise Systems Modernization project, all DHS programs are considered to be in scope for analysis. Early in the project, DHS decided that "direct services" would be out of scope for Modernization but an attempt would be made by KPMG to include them in the business architecture and high-level gap analysis.

The project is taking an integrated, functional view across all programs. The following Cross Program Functions are considered to be in scope:

- Eligibility
- Fraud, Waste and Abuse
- Compliance
- Claims Tracking
- Performance Management and Business Intelligence
- Data Management
- Other Functions needed to support DHS Programs

The project is intended to align and Integrate with the following initiatives (but not duplicate their analysis and plans):



- Health Insurance Exchange the ESM project intends to leverage solutions, infrastructure, and business capabilities from HIX as appropriate, and identify integration requirements
- Health Care Programs (to be handled by HIX and MMIS Modernization) exception – Eligibility – the ESM project will identify integration requirements with Health Care Eligibility Programs
- MMIS Modernization (Claims Payment) the ESM project will identify integration requirements with Claims Payment

The following will be out of scope for the Enterprise Systems Modernization planning project:

- Health Insurance Exchange the ESM project will not replicate requirements and plans for MNsure, but will identify integration required
- Health Care Programs Phase 1 (initial functionality) the ESM project will not replicate requirements and plans for the first phase
- MMIS Modernization (Claims Payment) the ESM project will not replicate or include requirements and plans for the MMIS Modernization (separately funded effort), but will identify integration required and some functionality currently in MMIS will likely be moved, in part due to recommendations coming from this Modernization plan
- "Back Office" functions such as HR, Finance, Asset Management, and Procurement functions (other than to identify interfaces required to financial and HR business functions and systems)

### 1.4 Purpose of this Report

The purpose of this report is to determine the benefits, efficiencies, and cost reductions through an integrated human services system realized by various stakeholders. The Cost-Benefit Analysis is a key deliverable to help make the case for investment in modernization to the State and the Federal government. The results of the cost benefit analysis will be used to define benefits, risks, and cost avoidance areas for alternatives for the target architecture, to determine the impact of alternatives on DHS operating costs, and to identify and build actions into the Transformation Roadmap in support of DHS's future state vision.



## 1.5 Approach to developing Cost Benefit Analysis Report

KPMG followed a four-step process to the development of the Cost Benefit Analysis Report:



The objectives and outputs of each of the above identified steps are illustrated in the following table:

Step #	1: Identify Benefits	2: Develop Benefits Survey	3: Complete Benefits Survey	4: Perform Assessment
Objective	To identify key benefits of Enterprise System Modernization.	To develop a survey for evaluation and quantification of the benefits identified in Step 1 and input from BADT and counties.	Completion of the benefits survey by BADT and 87 counties and input on the improvement of efficiency and quality for counties and clients through systems modernization as well as the ability for quantify benefits.	Assess results of benefits survey.
Output	Identification of key benefits of system modernization via discussion, workshops, and feedback from DHS.	Distribution of the benefits survey to BADT and 87 counties for input.	Receipt of completed benefits survey.	<ul> <li>Identification of top 5 benefits for improvement in efficiency and quality, and ability for quantification.</li> <li>Discussion and identification of strategic considerations</li> </ul>



#### **1.6 Survey Completion Assumptions and Constraints**

- KPMG received a total of 153 survey responses: 152 survey responses from counties and one (1) consolidated response from BADT.
- Out of the 152 county responses, 76 responses were fully completed and 76 partially completed.
- Several counties provided multiple responses to the survey.
- In total, 58 out of 87 counties provided survey responses.
- A list of counties who responded to the Benefits survey and the number of responses per county can be found in *Appendix D*.



# 2 Executive Summary

## 2.1 Report Overview

KPMG has developed this Cost Benefits Analysis Report to assist the State in evaluating the potential benefits from enterprise systems modernization relative to the costs that may be incurred. The first portion of the report discusses project benefits to various groups, including clients, counties, the State, the federal government, and other stakeholders, including citizens, legislature, non-profits, community services, media, private funders, researchers, and advocacy groups. The report then lists the benefits ranked most highly in terms of quality and efficiency as well as the ability for quantification for stakeholder groups from a cost-benefits survey conducted with Minnesota counties and the Business Architecture Domain Team (BADT). The section also provides strategic considerations for DHS as it evaluates its modernization options and inherent benefits.

#### 2.2 Modernization Legislative History

- Laws 2011, Chapter 9, Article 9, Section 17 (f) requires DHS, subject to a legislative appropriation, to issue a request for proposal for the appropriate phase of an integrated service delivery system for health care programs, food support, cash assistance, and child care.
  - This proposal would secure funding for planning needed to modernize existing systems that support the administration and delivery of DHS services
  - This proposal does not include the MMIS, which will be modernized in a future phase
- Laws 2011, Chapter 9, Article 9, Section 17 (a) directed the Commissioner of the Department of Human Services (DHS) to issue a Request for Information (RFI) for an integrated service delivery system.
  - On August 1, 2011, DHS published in the State Register a Notice of Availability of Request for Information (RFI) for an Integrated Services Delivery system
  - Twelve vendors responded to the RFI; DHS invited five vendors to provide on-site product demonstrations. DHS technical and business staff, as well as county staff, participated in vendor demonstrations.
  - The RFI process demonstrated that a competitive bidding process could identify a product that would help modernize DHS systems.

This Cost Benefit Analysis Report is one of the results of the planning project that the aforementioned legislation has triggered.



#### 2.3 Why the State needs to modernize

Two of DHS's main legacy systems, PRISM and MAXIS, went into production more than 15 years ago. These legacy systems are now expensive to maintain, difficult to learn and often difficult to modify (i.e. to comply with legislative mandates) due to antiquated programming languages that are no longer wellsupported by the IT industry thus making specialized support resources difficult to find and retain. Staff with appropriate skills is also already eligible for retirement. Additionally, the current legacy systems were developed as siloed systems, which has led to inherent data and process redundancies.

KPMG's Alternatives Analysis Report contains a gap analysis evaluating DHS's legacy systems against requirements identified for DHS's future state target operating model. The analysis notes that several DHS systems, including MAXIS, PRISM, and portions of SSIS, rely upon technologies that are aging and considered not strategic. Additionally, business functions and processes identified as part of the target operating model would either not be supported by legacy systems or require manual user interaction. Reliance on non-strategic legacy infrastructure may challenge DHS by limiting system capabilities, and would most likely diminish the State's chances of achieving the benefits identified in this report.



### 2.4 How the investment in systems modernization will help Minnesotans

Figure 1: Overarching Benefits of the Investment in DHS Enterprise Systems Modernization



Per the representation in Figure 1, the investment in system modernization has overarching benefits to a number of stakeholders including DHS clients and service delivery partners (counties and tribes) as well as the State and its constituents including improved service improvements for clients through an integrated and team-based service delivery approach and broader outcome measurement which may cumulate in longer term economic benefits for clients such as higher school attendance and graduation rates, less dependency on State and Federal welfare benefits, and ultimately benefit taxpayers and reduce the demands on the system.

Systems modernization will not only promote a 21<sup>st</sup> century seamless and less complex experience for consumers in need of accessing services but provide positive qualitative benefits and impact for the State and other stakeholders such as Minnesota taxpayers, compared to maintaining the status quo which will become increasingly difficult and impractical to maintain.

Minnesota has, through necessity, continued to make investments in its legacy systems to support program and service improvements. Over the years those systems have served the State well; however, the underlying technologies are now outdated, and the available budgets have not allowed DHS to modernize over the years. The current opportunity is to leverage more modern technologies that are being implemented for the Minnesota Health Insurance Exchange, MNsure.

KPMG worked with county representatives and other DHS stakeholders via workshops and follow-up discussions to identify specific benefits that counties, clients, and others will realize as part of the State's investment in systems modernization. A complete list of benefits can be found in *Section 3* of this report. Top benefits include:

#### **County – Improved Efficiency**

> Virtual Compilation of all case records for holistic view of client.

#### **County – Improved Quality**

Electronic verification of client and provider information to avoid fraud and the potential for overpayments.

#### **Client – Improved Efficiency**

> Improved access to case-specific client data and benefit/service data via Public Web.

#### **Client – Improved Quality**

> Maximized, flexible client self-service and automated service delivery processes.



## 2.5 Projected Modernization Costs

Projected modernization costs will be discussed and evaluated as part of the *Enterprise Systems Modernization Funding Approach Report.* 

#### 2.6 Modernization Strategic Considerations

Responses to the benefits survey indicate that modernized human services systems will significantly improve client and system user capabilities. Survey respondents note that they project improved quality and efficiency around client records maintenance, case transfers, verifications, and outcome measurement.

Furthermore, it is likely that legacy systems will present significant maintenance issues if left in place. As stated above, some of DHS's key systems were implemented 15 years or more in the past and lack features, like modularity including a flexible rules engine, considered standard in modernized human services environments.

Finally, the availability of enhanced federal funding via relaxed federal cost allocation rules through December 2015, coupled with the State's decision to implement a state-based Health Insurance Exchange, present DHS with a unique opportunity to create a modernized enterprise systems environment that captures extensive benefits for clients while reducing administrative burdens on the State and counties. As such, the benefits detailed in this report provide a strong springboard into the State's decision to invest in the modernization of its human services systems.

Key features of DHS's system modernization architecture can be found in Appendix C.



# **3 Benefit Analysis**

Through a variety of functional workshops in September and November 2012, as well as visits to selected counties and follow-up discussions with DHS, KPMG in unison with DHS has identified key benefits for the State in realizing its vision of an integrated Health and Human Services Delivery system. The benefits were used as the basis for the development of the benefits survey, which was subsequently distributed for input and completion to BADT and the 87 counties.

The following is an overview of the aforementioned key benefits, categorized as benefits to clients, benefits to counties, benefits to the State (IT and business benefits), benefits to the Federal government, as well as benefits to other stakeholders, including citizens, legislature, non-profits, community services, media, private funders, researchers, and advocacy groups.

#### 3.1 Benefits to Clients

The following is a summary of key benefits to clients as part of DHS's systems modernization:

#### Area: Client Self-Service

- Access mechanisms and generalized 'access agents' simplify and improve access, eliminate "wrong door" experiences and provide for more effective and timely access to services
- Improved access to case-specific client data and benefit/service data via Public Web
- Maximized client self-service and automated service delivery processes

#### Area: Client Support

- Increased availability and accessibility to assistance and guidance for program-related questions via help desk functionality
- More efficient follow up and resolving of client complaints and incidents as related to service delivery
- Better performance and compliance information
- More efficient response timelines to client needs for services

#### Area: Program and Service Management

- A broader initial screening and assessment of client needs for cross-Agency programs and services
- Improved client service planning and outcome tracking through a 'shared' client and case management approach via multi-disciplinary teams


More defined case management services with seamless service experience, guiding client journey more efficiently and effectively, improving client outcomes, eliminating gaps, ensuring smooth transformations, collaborating across programs

# 3.2 Benefits to Counties

The following is a summary of key benefits to counties as part of DHS's systems modernization:

#### Area: Client Self-Service

 Efficiency through increased opportunities for client self service through alternate access methods (web, IVR)

#### Area: Client Support

Better scheduling and utilization of resources to support clients

#### Area: Document and Content Management

- Decreased use of paper forms and move towards electronic data capture and document storage
- Virtual compilation of all case records for holistic view of a client
- Ongoing simplification of work, simplification of policy, and continuous improvement
- Electronic transfer of client files in support of efficient client service delivery and case management in case of client move

#### Area: Provider/Contract Management

Common provider/contractor management process and tracking of compliance with certification, licensure, and credential requirements

#### Area: Program and Service Management

- Improved workflow flexibility (within reason)
- Increased caseworker coordination and management- specialization, functions, availability
- Greater access to historical client information including changes in client information, past services, and benefits received
- More efficient verification of client and provider information to avoid fraud and the potential for overpayments



- Greater and more effective outreach to client on program information to enhance service delivery and outcome measurement
- Expedited and efficient referrals of clients to community partners and cross-county/tribe/agency
- Streamlined assessment process for broader evaluation of client needs
- More streamlined benefit/service and service approval process
- Streamlined case review process for more efficient outcome and performance measurement
- Increased worker mobility and remote access to systems and information for more extensive face-toface client interaction and field work

#### Area: Business Intelligence

- Better operational data for management
- Ability to customize systems and information (may require counties to contribute to systems implementation costs for customization)

#### Area: Data Integration

- Reduced duplicate data entry
- Better operational data for management
- More efficient information sharing/interfaces between community partners, external parties, and other stakeholders

#### 3.3 Benefits to the State

The following is a summary of key benefits to the State, both on the parts of business and technology, as part of DHS's systems modernization:

#### 3.3.1 Business Benefits to the State

#### Area: Program and Service Management

- Common program support services evolve to integrate, automate and streamline routine service delivery processes
- More consistent/streamlined approval processes, including joint State and local approval processes (services, service plans, funding)



Case management services that support seamless service experience, guiding client journey more efficiently and effectively, improving client outcomes, eliminating gaps, ensuring smooth transformations, collaborating across programs

# Area: Performance and Compliance Management

- Improved program evaluation, performance management, policy optimization
- Prevention of/Opportunity to Reduce fraud, waste and abuse through identification and action
- Enhanced tracking of policy and procedure violations and compliance risks System-level policies defining clients, needs, outcomes, accountabilities, resource and capability strategies, etc. strength service alignment and sustainability
- Increased accountability for adherence to quality measures

#### Area: Program Financial Management

- More cost-effective human services
- More effective budgeting for programs and services due to trusted data

# 3.3.2 IT Benefits to the State

#### **Area: Operations Management**

- Reduced IT operations costs
- Reduced risk associated with aging systems and loss of knowledge
- Modernization of IT skills and capabilities to support ongoing continuous improvement
- Ability to measure success of the investment in integrated service delivery and enterprise systems modernization

#### Area: Performance and Compliance Management

Increased ability to track system and information access violations

#### Area: Data Integration

- Better integration of data with local systems
- More effective data management



# 3.4 Benefits to the Federal Government

The following is a summary of key benefits to the Federal Government as part of DHS's systems modernization:

#### Area: Performance and Compliance Management

- Improved program evaluation, performance management, policy optimization
- Improved outcome tracking against federal performance measures and standards
- More streamlined program reporting Increased transparency into program performance and client outcome measurement
- Improved management and reporting of funding allocations and expenditures (i.e. grants)
- Access to more trusted performance data

# 3.5 Benefits to other Stakeholders

The following is a summary of key benefits to other stakeholders as part of DHS's systems modernization:

#### Area: Performance and Compliance Management

■ Improved program evaluation, performance management, policy optimization

#### Area: Program Financial Management

- More cost-effective human services
- Increased confidence in DHS and service delivery partners to fulfill mission



# 4 Benefit Survey Results/Strategic Considerations

# 4.1 County Benefit Survey Responses

KPMG received and assessed a total of 152 county benefit survey responses. Out of the 152 county survey responses, 76 responses were fully completed and 76 partially completed. Several counties provided multiple responses to the survey. In total, 58 out of 87 counties provided survey responses. A listing of survey responses by county can be found in *Appendix D*.

As part of our assessment, KPMG analyzed survey responses based on the top five (5) highest responses for improvement in efficiency and quality for counties and clients as identified below as well as the ability to quantify the benefits represented in the survey. KPMG furthermore analyzed comments provided by counties in support of the benefits survey and provides strategic considerations for DHS as part of the benefits of systems modernization and an Integrated Human Services Delivery System. Sample comments can be found in *Appendix A*.

# 4.1.1 County Benefits

# Top 5 Survey Results – Improve Efficiency

1. Document and Content Management

Virtual Compilation of all case records for holistic view of client. (85 out of 152 responses)

2. Program and Service Management

Electronic verification of client and provider information to avoid fraud and the potential for overpayments. (81 out of 152 responses)

# 3. Document and Content Management

Electronic transfer of client files for efficiency and support in case of client move. (80 out of 152 responses)

#### 4. Document and Content Management

Decreased use of paper forms and increase of electronic data capture and document storage. (78 out of 152 responses)

5. Data Integration

Reduced duplicate data entry. (77 out of 152 responses)



# Top 5 Survey Results - Improve Quality

#### 1. Document and Content Management

Virtual Compilation of all case records for holistic view of client. (83 out of 152 responses)

#### 2. Program and Service Management

Electronic verification of client and provider information to avoid fraud and the potential for overpayments. (77 out of 152 responses)

#### 3. Document and Content Management

Electronic transfer of client files for efficiency and support in case of client move. (73 out of 152 responses)

#### 4. Data Integration

Reduced duplicate data entry. (72 out of 152 responses)

#### 5. Program and Service Management

Streamlined case review process for more efficient outcome and performance measurement. (71 out of 152 responses)

#### 4.1.2 Client Benefits

#### Top 5 Survey Results – Improve Efficiency

#### 1. Client Self-Service

Improved access to case-specific client data and benefit/service data via Public Web. (70 out of 152 responses)

#### 2. Client Self-Service

Maximized, flexible client self-service and automated service delivery processes. (68 out of 152 responses)

#### 3. Program and Service Management

More defined and seamless case management services and collaboration across programs. (58 out of 152 responses)



#### 4. Program and Service Management

A broader triage, initial screening and assessment of client needs for cross-Agency programs and services. (56 out of 152 responses)

#### 5. Client Support

Rapid assessment of client need for services. (55 out of 152 responses)

#### Top 5 Survey Results – Improve Quality

#### 1. Client Self-Service

Maximized, flexible client self-service and automated service delivery processes. (60 out of 152 responses)

#### 2. Client Self-Service

Improved access to case-specific client data and benefit/service data via Public Web. (55 out of 152 responses)

#### 3. Client Support

Better agency performance and compliance information. (54 out of 152 responses)

#### 4. Program and Service Management

More defined and seamless case management services and collaboration across programs. (50 out of 152 responses)

#### 5. Program and Service Management

A broader triage, initial screening and assessment of client needs for cross-Agency programs and services. (49 out of 152 responses)

#### 4.2 BADT Benefit Survey Responses

In addition to the county benefit survey responses, KPMG received one (1) consolidated survey response from BADT evaluating improvements in efficiency and quality from benefits to the State (IT and Business), the Federal Government, and other stakeholders, including citizens, legislature, non-profits, community services, media, private funders, researchers, and advocacy groups. KPMG analyzed the BADT responses to include benefits that were rated "high" in both – an improvement in efficiency and quality for the designated stakeholders.



The following presents the results per KPMG's analysis:

# 4.2.1 Benefits to State – Business

#### **Program and Service Management**

More defined and seamless case management services and collaboration across programs.

#### Performance and Compliance Management

- Improved program evaluation, performance management, and policy optimization.
- Reduced fraud, waste and abuse.
- Enhanced tracking of policy and procedure violations and compliance risks.
- System-level policies defining clients, needs, outcomes, accountabilities, resource and capability strategies.
- Increased accountability for adherence to quality measures.

#### **Program Financial Management**

More effective budgeting for programs and services due to trusted data.

#### 4.2.2 Benefits to State – IT

#### **Operations Management**

- Reduced risk associated with aging systems and loss of knowledge.
- Modernization of IT skills and capabilities to support ongoing continuous improvement.

#### Performance and Compliance Management

■ Increased ability to track system and information access violations.

#### **Data Integration**

- Better integration of data with local systems.
- More effective data management.



# 4.2.3 Benefits to the Federal Government

#### Performance and Compliance Management

- Improved program evaluation, performance management, policy optimization.
- Improved outcome tracking against federal performance measures and standards.
- More streamlined program reporting.
- Increased transparency into program performance and client outcome measurement.
- Improved management and reporting of funding allocations and expenditures (i.e. grants).
- Access to more trusted performance data

#### 4.2.4 Benefits to other Stakeholders

Performance and Compliance Management

■ Improved program evaluation, performance management, policy optimization.

# 4.3 Benefits for Quantification

In addition to evaluating survey responses in relation to improvement in efficiency and quality, KPMG identified the top benefit candidates for quantification. If DHS were interested in further analyzing the impact on operating costs including potential cost reductions, it should consider starting with the benefits below. KPMG analyzed BADT responses to include benefits that received a "Yes" response in Benefit Quantification for the designated stakeholders.

The following presents the top quantifiable benefits per KPMG's analysis:

#### 4.3.1 Benefits to Counties

#### **Program and Service Management**

- Electronic verification of client and provider information to avoid fraud and the potential for overpayments. (64 out of 152 responses)
- Streamlined case review process for more efficient outcome and performance measurement. (62 out of 152 responses)



#### **Document and Content Management**

- Virtual compilation of all case records for holistic view of a client. (60 out of 152 responses)
- Electronic transfer of client files for efficiency and support in case of client move. (60 out of 152 responses)
- Decreased use of paper forms and increase of electronic data capture and document storage. (58 out of 152 responses)

#### **Data Integration**

- Reduced duplicate data entry. (58 out of 152 responses)
- Better operational data for management. (55 out of 152 responses)

#### 4.3.2 Benefits to Clients

#### **Client Support**

Better agency performance and compliance information. (50 out of 152 responses)

#### Client Self-Service

- Improved access to case-specific client data and benefit/service data via Public Web. (47 out of 152 responses)
- Maximized, flexible client self-service and automated service delivery processes. (43 out of 152 responses)

#### Program and Service Management

 A broader triage, initial screening and assessment of client needs for cross-Agency programs and services. (43 out of 152 responses)

#### **Client Support**

- Rapid assessment of client need for services (40 out of 152 responses)
- Increased access to help with program-related questions via help desk/call center. (38 out of 152 responses)



# 4.3.3 Benefits to State - Business

#### Performance and Compliance Management

- Improved program evaluation, performance management, policy optimization.
- Prevention of/Opportunity to Reduce fraud, waste and abuse through identification and action.
- Enhanced tracking of policy and procedure violations and compliance risks.

#### **Program Financial Management**

More cost-effective human services.

#### 4.3.4 Benefits to State - Business

#### **Operations Management**

Reduced risk associated with aging systems and loss of knowledge.

# 4.4 Strategic Considerations

Additionally, our analysis of county and BADT survey responses and additional commentary provided us with a set of strategic considerations. The strategic considerations present important themes presented in county and BADT comments to survey questions and voice support of systems modernization or concerns thereof on parts of specific counties and the BADT.

#### Support

⊕ Client waiting times in county office can be reduced with clients having access to services and applications for services via Public Web. This will greatly curb a client's dependency on regular county office hours or parking restrictions around the county office.

 $\oplus$  Overall front door traffic and phone traffic could be significantly reduced with more flexible client access methods.

Increased and more flexible access to services removes barriers of time and transportation for specific clients.

⊕ Substantial savings in time and costs can occur through the use of document imaging mechanisms, granted that the quality of scanned images is high. It would reduce the mailing of files in file transfers.



 $\oplus$  Significant increase in worker mobility and remote capabilities will allow for ease and improvements in county office space capacities.

① Quality measures for providers could be improved including more providers with higher quality ratings.

⊕ Through improved programs evaluations, performance evaluation, and policy optimization, significant efficiencies in evaluation costs could be gained.

# Concerns

○ Client self-service through alternate access methods, specifically electronic methods, may not be beneficial to a select number of clients: elderly clients, clients without internet and/or computer access in remote and rural areas, or clients with barriers to self-sufficiency. Clients may not be comfortable with the internet, automated responses, or call centers, and prefer or need face-to-face contact.

⊖ Follow may be required on parts of the county if online applications are note filled out correctly or completely. Clients may also increase follow up calls to the county office for questions with online applications/the Public Web.

○ Providing inaccurate information online may affect a client's eligibility determination and action taken by the caseworker; hence, a robust verification mechanism needs to be in place along with common verification criteria across programs.

⊖ Concern was voiced over data security and data privacy in online applications and data sharing.
 Common data practices will need to be stressed and enforced.

⊖ Not all benefits may be seen as top priority by all counties, especially smaller counties/agencies.

⊖ There is concern about county contributions to systems costs and modernization.

⊖ Improvements in quality measures and accountabilities i.e. in child care quality could result in an increase in cost.

As an overarching consideration; however, it is important to note that a project has to be managed and funded as well as executed properly, otherwise benefits will be unattainable.



# 5 Cost Summary

One-time and annual ongoing project costs as part of the ESM effort will be discussed in detail in the *Enterprise Systems Modernization Funding Approach Report.* As part of overall ESM management, the cost detail includes a reference to benefits tracking and realization in an effort to help ensure that the investment in systems modernization is made worthwhile.



# Appendices



# Appendix A: Sample Survey Comments

# **County Benefits**

- 1. Benefit: Increased opportunities for client self-service through alternate access methods, e.g. web, Interactive Voice Response (IVR).
- Many of our clients have difficulty filling out and understanding the applications for service. Dealing
  with computers will benefit a small number of our clients so I suspect clients will continue to call us
  with changes or checking the status of their case.
- Many of our clients would not participate at this time especially the elderly clients. I think this would
  improve in time as people became more familiar with the online options.
- Depending on the clients ability this may only be of benefit for a small portion of those we work with.
- Staff indicates the biggest reason for inefficiency and not meeting required deadlines is client interruptions many of which are for the information noted above. This should be somewhat quantifiable in the reduction of phone and walk-in clients.
- Many clients do not have access to computers or knowledge how to use them. The elderly is a good example.
- The benefits will be dependent on the accuracy of information provided and the availability of access our clients have to computers.
- Increased opportunities for client self-service will be a productivity boost to counties and provide clients with more options. Most large metro counties, and MCRE, would be struggling to keep up with work load if not for the limited self-service options available today, such as the current IVR capabilities.
- Self-service questions invariably end up being so simple that they are easily misinterpreted and incorrect information is provided.
- The information is only as good as what is entered into the system. Even with it being a "smart application", it is easy to misread or misinterpret what is being asked. Clients quite often have the ability now to access information through other methods, however, continue to call workers to ask for the info. Even with the amount of contact we have now with clients, they fail to report changes...even though it will be easier, I don't see their being a drastic increase in timely reporting. \*Counties should be able to quantify more apps received electronically and less phone contacts, but it would be difficult to quantify how much clients are looking up to check status or find information on their own.
- Clients frequently call for status. Having the system answer will save worker time.
- I believe this will improve efficiency as Eligibility Workers (EW) will not have to wait for Household Report Forms and other client information to be received by the agency. When an EW is ready to "work" the case, the information could be readily available. Quality would be improved from the agencies point of view as EWs would be able to work the case with the necessary information available to them, which should decrease mistakes. Also, if clients are able to look up case status information for themselves, this should mean less interruptions for EWs and more time for workload processing. This benefit would be hard to quantify at this point in time because it would depend on how many clients would use the new system.



- It will eliminate the waiting time for client in our lobbies; service info can be available to clients independent of service hours as well as location. Clients in remote locations would not have to drive (especially if they cannot afford it) to initiate a service request. Office space can be utilized more efficiently.
- Removes many barriers of transportation and time. Allows 24 hour access
- Training people (or making the tool very intuitive) will impact just how high the benefit will be.
- To some populations, with easy access to web, much of this may improve efficiency. How large is that population accessing this technology predicted to be? Questionable value to populations such as elderly and disabled. Because of some information being available, possibly less phone or other contact with workers? Problems could be with system access such as knowing/remembering case/PMI numbers and passwords. Time and assistance in addressing these issues creating more time needs or will be a self responding system to these issues? May information require follow-up for explanation and discussion as hard copy notices do now or lessen interactions? Only system that we can begin to look at with any level of experience (short) is Apply MN and it is showing some interest not seen to be significant at this time in our county.
- While this would improve efficiency if the information provided was accurate and complete, the
  efficiency would be significantly impacted if applications and/or case updates are not complete. Case
  in point; ApplyMN applications lack many verifications and complete responses.
- It would be a great tool, the area it may not provide as much benefit is with those that don't understand it and it either further confuses them or they continue to come to us. But, for many it would be a good service.
- Efficiency and quality are completely dependent upon the information required to be completed online. If all of the information needed by the Eligibility Worker is not asked, it just adds to the consumer's frustration and delays determination of benefits because the Eligibility Worker cannot complete their work until the can contact the consumer and obtain all required information.
- If the information they enter is accurate this system would be beneficial. These programs are complicated and we question if the client will understand what they are reading on-line.
- Information from and to clients might be received more timely and workers will have more time to concentrate on other more complicated cases.
- There are still the clients that don't know how to access information on systems and aren't about to learn. Those that can't read or those without equipment. Lack of computer access will need to be addressed.
- I would anticipate this will significantly reduce phone calls and increase timely action
- Not all clients have a computer/internet access. Not all clients have the ability/knowledge to navigate a computer website/HIX.
- It will be easier for clients to "forget" to update changes...that is why I indicated a lower rate for improve quality.
- We have a lot of elderly clients who will not use online applications



- In our rural area, most of our clients do not own computers. We do have a computer out front that some clients utilize, so it would be a small amount of people who may benefit from this new system.
- I believe this is a component we need to strive for; however, I'm uncertain what we can expect for quality based on client self-service.
- For tech savvy customers this will be very helpful. They can do their own updating and avoid trips into the office. It will be a challenge for some who struggle with technology.
- We are currently choking on paper and absolutely have to have a new approach to doing this work.
- The information provided through self application and case status changes would be advantageous, but is only as good as the information is provided. System modernization will need to be at a point where requested information cannot be left to the applicant's interpretation. Where situations call for information to be verified, uncertain if this can be automated or will need to be touched by a processing entity.
- I believe that the proposed system would advantageous clients. Clients would not be reliant upon county workers to complete applications. The system would need to be sufficiently reliant to provide needed eligibility verifications therefore reducing review by County workers.
- Quantifiable is a difficult term. We would have to look at issues such as front door traffic, phone traffic and face to face time to measure. While gross traffic counts aren't that hard we've had trouble averaging out time estimates for types of contacts.
- People often misread or misunderstand a question...especially when reading themselves so feel that clients may be providing/entering inaccurate information that may affect their eligibility determination. Most individuals continue to want some kind of direct contact with workers even though the information may be available through another method, especially in non-metro areas of the State.
- This approach is very client oriented and customer friendly. A client/customer should have the ability to enter applications, report life events, and learn the status of their application, review notices, and look-up information on their case/cases. This is similar to a person having access to their Checking Account/Savings Account on-line, Student Loans on-line, filing IRS. 1040 Forms on-line and paying bills on-line.
- Save worker time!! And reduce typos.
- 2. Benefit: Better scheduling and opportunity to more flexibly utilize resources to support clients.
- Our agency does not currently have flexible scheduling.
- Hopefully this will be robust enough to replace many of the native county scheduling systems; if so, a uniform scheduling/task component should also contribute to greater collaboration across the system as clients move between clients and in and out of public coverage.
- PRISM has a work list (task) list for staff to use so this would not be a change for child support staff.
   Scheduling within the system might be a nice feature vs. using the current calendar used.
- Our county is in the process of implementing the component discussed in this question. I do not see us using both systems to do scheduling. It was made quite clear to us from DHS that this type of feature was not something the state was to provide and this was not said not that long ago.



- This will be a huge benefit over our current MAXIS system, as long as it remains user friendly. Supervisors should be able to review how staff are acting on and maintaining their caseloads much easier than now.
- Organization is key for good case management
- Improved Efficiency: through readily available caseload tasks for timely case management. Efficiency could be gained through timelines being met. Improved Quality: Cases are worked efficiently and timely. Quantifiable: supervisors should be able to review work queues and task lists for appropriateness of caseload processing.
- Adaptable to match the needs of our clients, this flexibility is a strength.
- Difficult to determine what it would be quantifiable against, due to different processes in each county (with scheduling, etc).
- Wright County has OnBase with workflows that already queue work for staff. This would not be an
  improvement to efficiency for our County program. However, it may impact other counties differently.
- 3. Benefit: Decreased use of paper forms and increase of electronic data capture and document storage.
- Our Income Maintenance Unit is electronic so this will be a benefit for us.
- Many counties have purchased or are purchasing an EDMS system now. Need to think how a new system will be compatible with expensive EMDS systems already being purchased by counties or in use.
- The benefit of this will highly depend on how well the system interacts with native county EDMS systems. DHS took a long time developing a central EDMS function, so counties have made extensive investments in EDMS technology.
- Wonderful concept, if all clients are technologically savvy and bother to image all of the pertinent parts of required documents.
- A great number of our clients to do not have access to computers.
- I am concerned that we are spending a lot of money now for something the state will be providing soon. Thanks.
- Less paperwork and electronic data capture will be a tremendous benefit; reducing time hunting for lost paperwork or files and time creating numerous documents with much of the same information.
- More accurate, no time lost filing paper, less storage space needed.
- Efficiency: improvement by having documents sorted and readily available. No more digging through the file looking for documents. No more multiple case files. Quality: all case information would be in one place and readily available Quantifiable: May be beneficial for case management but would cause increased costs to the county in additional work for imaging information.
- Efficient and effective. Less frustration for clients. Should improve time to process getting the needed services quicker.



- Wright County already uses the OnBase imaging system. It has provided efficiencies to the point that I don't think a different imaging system would give us significantly increased efficiency. This may be different for other Counties. Again, quality is only improved if the information provided is accurate and complete whether it is an imaged document or a paper document.
- We currently have an imaging system through OnBase so we have already realized a benefit. It would be great to see the actual documents collected by other sources.
- Capturing information via electronic means and reducing reliance on getting documents and forms from clients would be a big efficiency gain. (We currently have to scan and file over 100,000 documents per month). As for the imaging component, our county already has a robust EDMS, so the benefit to us will depend greatly on HOW these capabilities are implemented at the state level. The system must connect well with county-level EDMS. If the direction is to move toward a state-wide EDMS it would need to match the functionality we currently have there will need to be a thoroughly planned transition. (Without those things our benefit rating would change to low). The ability to share documents across programs, with other counties, and with other departments where appropriate (corrections, health, courts) will also be important.
- We currently have an electronic document system but if clients can submit documents directly into the system and they can be pushed into our existing EDMS system easily without having to be downloaded and manually moved it would increase productivity. Concern would be the ease of importing the documents - unless the new system will store the forms
- This will be a fantastic feature! Again situation that will allow clients to provide information without mailing or coming into the office.
- It is suggested that the "new System" be adaptable to the various EDMS systems currently operating around the state. It appears that electronic imaging and case processing will be more prevalent in the not so distant future. It would be a tremendous advantage if systems become compatible. I would promote this as a priority.
- This will be a dramatic benefit to work efficiency
- This would be very helpful, since most county agencies are running out of case file space. The imaging of client-associated documents would decrease the paper in the files, and allow quicker access to electronic information.
- 4. Benefit: Virtual compilation of all case records for holistic view of a client.
- Wonderful! This will reduce the reliance on the separate SMI, and other native county systems and be much more effective for county workers and integrated service delivery.
- Will reduce the possibility of entering incorrect information and will allow client to report/verify one time for multiple program areas.
- It is beneficial to look more from a more holistic view, but it is difficult to determine just how much efficiency can be found in comparison with current process, given that we are unsure of just how the technology will work.
- The Hennepin County "200 Families" study a few years ago highlighted the costs of disjointed human service delivery (both in \$\$ and in client outcomes). A holistic view should facilitate collaboration and coordination of service delivery across programs.



- Some information sharing is extremely helpful and other times it is merely additional information to
  review that does not impact the actions the worker needs to take. However, working on the 'one door'
  policy and the information being readily available vs. having to manually share docs between
  departments would have a positive effect on efficiency and the quality of the service we can provide
- GREAT! This will prevent errors in entering same info in multiple screens and will free up some time for workers with less data entry.
- If you could get this system to go across state lines and give us this same information, it would be very helpful and save workers time from calling the border states to check on eligibility.
- This would be preferable. I hope that some of the master indexes will be able to be consolidated to reduce the number of systems in play.
- We have many families that are part of multiple programs, so this feature would be very helpful to staff, so that we could better coordinate the services that they are receiving. Even though we are a small county agency, we sometimes fail to coordinate programs for clients/customers due to lack of communication because of our caseloads.
- 5. Benefit: Ongoing simplification and improvement of work and policy.
- Simplification will be a benefit for staff and clients. Should improve response time and reduce some errors.
- If allowing the system to be configured differently in different locations, will this impact consistency
  across locations which are a large current problem as each county is managing the same programs
  differently.
- PRISM already gives us time frames/work lists to follow the flow of our workload so as far as improvement this is already available.
- As many counties are case banking, we're grateful that there will be the opportunity to set-up some work flow options to create efficiencies with our current system.
- Given different methods of eligibility determination and management processes used across the state such as individual case management and case banking, multiple configurations are important.
- Simplification would improve efficiency to a great extent. Unknown how work flow controls would impact the product. Wright County has OnBase with workflow configuration. We would like to see a system that integrates with our imaging/workflow product (OnBase and Capture)
- It is vital that current Eligibility Workers are involved in developing work flow controls, configuration and simplification processes.
- Efficiency will be gained only if counties can change configuration independently and locally.
- Counties are organizing into regions, service delivery teams etc., and different parts of the state have different workflow needs. The ability to configure system workflow to the needs of local environments is important.
- We answered this question based on our interpretation of what we think you are getting at...that they
  system will allow for variances in how counties structure their services (i.e., case banking, specialized
  caseloads, generic caseloads, etc).



- Worker mobility!
- 6. Benefit: Electronic transfer of client files for efficiency and support in case of client move.
- Will reduce staff time and cost in transferring large files and postage associated with those files.
- This will be great and long overdue. Streamlined, consistent, electronic case transfer between counties and other entities will produce major efficiencies across the entire system.
- This will be wonderful!!! No more burning information to discs, receiving large (unmaintained) files from other counties requiring considerable amount of time to be cleaned up before being given to on-going worker/team...and no more postage. Also, there are a few counties who are very slow in taking action when a case needs to be transferred, sometimes requiring several calls over a few weeks, so if it is easier, hopefully it will not take as long.
- Much more flexible on placement of staff. Quality depends on Quality of images.
- Though rated "low", still some benefit of moving files between workers in different parts of the agency.
- Wright County has an imaging system OnBase we have already experienced significant efficiencies with this system to the point that further efficiencies in another imaging system would have less of an impact than to a County without an imaging system. We would like an imaging system that will integrate with the recently implemented OnBase imaging system.
- It would be very helpful at both the County level and the client level to be able to access documents that other Counties have entered when a client moves between counties as well as not have the client bring in the same information again.
- Client files today are in a variety of formats (some on paper, others on a variety of different EDMS platforms) and transferring them between counties is a struggle. Solving that problem would save much time and improve the quality of client records. (Again, the assumption here is that the future system must integrate with local EDMS, particularly in the early years while client case history resides in county files).
- Will reduce clerical support needs and phone calls in the transfer of cases
- We could potentially quantify this. We currently image files and bur the images to a CD that gets mailed to the new county. It will save time, mailing costs, and CDs.
- Again, any way to save on the amount of paper in the files would be useful. Electronic images of documents would be great, but what happens in counties that do not have an Electronic Document Imaging System? Do we have to print those documents in order to place them in our case files? The Minnesota Dept. of Human Services should also be implementing an Electronic Document Imaging System statewide, so the client/customer case files are compatible.
- 7. Benefit: Common provider/contractor management process including tracking of compliance with certification, licensure, and credential requirements.
- Some of this type of information is already available online and it will be hard to know how many
  potential clients are already accessing the online data.



- Again, uniform statewide processes with greater access to information across the system will produce higher quality outcomes for clients and counties.
- Easier access to licensing information should promote greater efficiency (time). Unsure about quality
  or if it will be quantifiable.
- This is very challenging right now and in my opinion this will improve QA and safety in our system.
- I do believe that having ready access to child care provider licensing information will promote greater efficiency, I am uncertain as to how it will affect quality or be quantifiable.
- I think that this is important, but not a top priority for our Agency. Being a small agency, we have childcare provider licensing information available in case files, which is not as accessible as being online, but having all of the economic assistance, social service, and child support systems on-line would be a much higher priority than the childcare provider licensing information.
- 8. Benefit: Ability to set up consistency and best practices for common work processes, and the flexibility to re-configure the workflow to improve process efficiency.
- Any time there are numerous steps to be taken, errors will happen? Anything that defines/configures workflows will greatly improve process efficiency.
- This will certainly help due to the volume of some of these business processes.
- Even being able to send imaged SMRT documentation would be very beneficial and cost effective.
- The "flexibility to re-configure" is key. Consistency will need to be balanced with flexibility an optimal
  process for one county might not always be the best for another. Having the ability to make
  adjustments to the workflow as process improvements are identified (through LEAN etc) would be
  valuable.
- Sounds good not sure how applicable it is to small counties. However, it will be good to go through the process to determine if there is a different way to re-configure to improve efficiency.
- Again, this item should lent itself to greater efficiency by cutting down on the number of steps to accomplish tasks. Efficiency does not necessarily equate to quality, though.
- Consistency will be a welcomed.
- Again, this would be helpful but is not a top priority for our Agency. The SMRT Determination process
  works okay, but the response problem is due to short staffing at DHS. My financial assistance staff
  does an excellent job of compiling the appropriate information for the SMRT Process and then we
  have to wait. The staff that is working on these cases is very good, but overwhelmed at times. We
  have very few appeals, so configuring the hearings is not a priority for us.
- 9. Benefit: Increased caseworker coordination and management of specializations, functions, and availability.
- Will enable us to change how work is assigned.
- This will depend on the County's internal resources. Wright County currently has OnBase which does
  create work queues for the case manager, it is unknown if the work would be done more efficiently by



having specific tasks directed to another resource. We already do a lot of this in our work i.e.; PMAP updates, MA transportation, so the work is being done by tasks, this would just more easily route the work being done.

- The High ranking here assumes that work queues can be configured and adjusted at the local level (local offices won't be locked into a single state-wide workflow and won't have to wait for state programming to implement changes to work queues).
- Already implemented with EDMS in Morrison. Greatly benefits those without an EDMS.
- I think that this would improve efficiency, but with only three (3) Financial Assistance staff, we do a
  pretty good job of coordinating these functions.
- 10. Benefit: Greater access to historical client information.
- Again this could be very beneficial if the verification criteria are the same across programs. If we have
  to re-verify the info. It will not be helpful. It will be important for the program workers to trust that the
  workers of other programs are inputting accurate information.
- Auto fill info would be a huge benefit
- Q12 answer (duplicate) will reduce the possibility of entering incorrect information and will allow client to report/verify one time for multiple program areas.
- Will need to stress and enforce data practices--need to know
- With more information we can do better service
- It would be awesome if we could cross state lines and have the same access to the border states.
- It will save time in searching for material in old files or going through imaged records.
- Greater access to client information over a broad spectrum of programs should enhance efficiency and quality.
- As I stated earlier, this feature would be excellent to better coordinate services across all human service programs.
- 11. Benefit: Electronic verification of client and provider information to avoid fraud and the potential for overpayments.
- As long as the system data is in real time, it should reduce fraud and overpayments which is highly quantifiable.
- Simplified verification policies and procedures should align with available electronic data sources.
- DEED is already available on PRISM; no change to what we already have available to us. It would be nice to have other state and federal information that we don't already have available to us.
- When the electronic verifications are available, it will be a huge improvement to efficiency and quality. However, it remains to be seen how often the clients' verifications will actually be available in an electronic format.



- This will be very beneficial and a huge time saver for workers. We do, however, question how this will
  work with "self-attestation" and if/when fraud or overpayments will actually be done.
- This will be helpful as long as the DEED information is current. In the case of frequent job changes, we still may need to manually access information for eligibility.
- This would increase our efficiency due to the accuracy and expediency of the information.
- Great benefit, assuming that the electronic verification sources provide timely, reliable responses and that they are accepted sources under program policy (across programs).
- This would be very helpful so that the one person who has access in the county doesn't have to get information for other workers.
- In our experience working with data interfaces with DEED and federal systems in child support is that the majority of the data is not current and is outdated by the time we receive the interfaces (with the exception of the New Hire process). If the new system provides a "New Hire" system like child support, we would rate that as "high" for quality, but only for the situations that are applicable. In our experience, our customers change employment and their financial situations change quickly, and we have little faith that any "system" will be able to provide us with current and relevant information in the majority of our cases. I think it is idealistic to assume access to these systems will prevent fraud and overpayments.
- This will save much time for staff
- This verification process would save our Agency time and would allow for us to better utilize our resources for customer service versus fraud control. This system would have to be accurate and prompt in supplying our Agency the appropriate verification information.
- 12. Benefit: More outreach to clients with program information.
- This feature will help a small percentage of our clients but it will have benefit for people who want to learn about our programs. I could see family members looking at it to help their parents for example.
- All counties have websites now with much of this information. It is unclear how many potential users
  receive their information via the county website vs. other sources.
- It may help with people who are familiar with computers.
- Benefits will be dependent on the Clients willingness to use the site and the availability of them to have access to a computer. i.e. Will the Counties have public computers in their lobbies for the clients use?
- Again, this may be different comparing metro/out-state cases. Some may be more comfortable and more responsible with this option, but don't feel that it will help drastically considering the population we most currently work with.
- Although we do have our own county website and DHS maintains the state website, this will be one more "front door" for which consistent information can be provided. It may be a significant improvement, but it would likely only be to those that access healthcare through HIX, not those that receive insurance through other means.
- Will reach some of the population and may generate more applications and requests for information from counties.



- Will improve as more people access computers. Many do not. Less in rural areas.
- This will be helpful, although we believe clients will still call the County Office with questions.
- Will increase the number of applications. Will be able to compare with current screening numbers.
- This will be good, if it's accurate, kept up to date, and provides accurate information about services available, with information on how to access those services (ex: contact information). It needs to be attentive to the impact of providing this information on counties and other organizations. In other words, it shouldn't send people to counties when we can't do much to respond--that would add to confusion, to the call center workload, with dissatisfaction with government services and particularly with our workers having to correct misinformation.
- More info for the public is great. Some clients to not have computers/internet access and/or the ability to navigate a website.
- Our county has a number of elderly persons; I do not believe they will use website. On the other hand, their children may use the website to obtain info for them, and the younger persons will use the website.
- I can't see that a lot of our clients will use a website for information we have a lot of elderly clients.
- Client/public input is always valuable.
- This is a great idea as long as the information is clearly written and understandable. These programs
  are so complex it is easy to get confused. I would worry that we could get more calls with questions
  rather than less.
- If the goal is to truly seek system modernization, access to an information website containing a broad spectrum of program availability and options will be most helpful.
- Although this website would be nice, the general public would have to be comfortable in reviewing the
  program information to determine their options. It would improve efficiency with clients/customers, by
  educating them on the programs that they really need.
- 13. Benefit: Faster, more specific referrals of clients to community partners and cross-county/tribe/agency.
- Will reduce calls between agencies. Should see a reduction in paper and phone calls looking for needed information.
- Robust tools for community partners and health insurance exchange Navigators are critical to increase access to services and necessary assistance. We increasingly have a public/private system with many interdependencies.
- We continue to see many clients that do not meet eligibility criteria for all programs requested so this would greatly benefit referring to other services/resources available.
- Collaboration is key.
- Data security may be an issue.
- Concerns about data privacy and how to manage those issues.



- We have questions about data privacy and release of information forms before we can answer this question.
- Benefits will be more to the community partners than to counties.
- This benefit could be higher or lower depending on the level of access granted to partners i.e. will they
  have access to all of the information they need or will they have an incomplete picture due to data
  restrictions.
- Again, if access crosses state lines, even more awesome!
- Could increase the number of applications that need to be processed many of which will probably prove to be ineligible.
- This could be a tremendous resource as long as the information is current. That has been a huge challenge for the MinnesotaHelp.org / 211 system.
- I see this as a positive.
- Would greatly improve the referral process with our Community Partners. It is not a high priority for me in regards to efficiency, since we are a small agency and have a very good relationship with our Community Partners, but could improve the referral process.
- 14. Benefit: The new system will provide triage, needs assessment, and screening functions as part of client self-service.
- We very much need better assessment tools to refer people to the best resources.
- Clients will need to have access to a computer.
- As stated earlier, "smart applications" are wonderful but there is always a concern when clients are completing on their own as there can be misreading or misinterpretation of the question--the information is only as good as what is entered and may result in an inaccurate determination of benefits.
- Effectiveness is dependent on simplification of programs. Concern about people screening themselves out when they are actually eligible
- Applicants could screen themselves out when there is eligibility in border line cases.
- Value of this benefit could be higher or lower depending on system ability to accommodate other languages and clients with low literacy or low computer skill levels. This will be a wonderful feature for some of our clients, but others will struggle with "self-service." We will want to ensure that selfservice does not close off some options for clients who need to consult with someone in order to fully identify their service needs.
- For the self-sufficient client this would work very well. Many, many clients have barriers to selfsufficiency.
- A challenge with ApplyMN is that people check that they are interested in applying for everything even though they only qualify for one or two programs. It generates a tremendous amount of work in processing the applications for things they didn't come close to qualifying for.



- We may rate efficiency as high if the system has hard stops built in for eligibility determinations (unlike ApplyMN).
- This process would greatly improve the access that clients/customers have to our multi-disciplinary human service programs. They would be able to determine what programs are appropriate to meet their needs.

15. Benefit: Streamlined assessment process for broader evaluation of client needs.

- Concern about verification of information. Counties should not be held responsible for false claims.
- Should improve the time between application and approval and clients will receive benefits faster. Counties are struggling to meet processing timelines due to high caseloads and increase for demand in services. Some concern in counties how this will impact current staffing levels and whether or not workers will be laid off as it will be less labor intensive.
- Very beneficial to County if it works properly as the IV-A department states they have to many
  programs to remember and determine. Would be nice if some of the cases didn't need their
  intervention.
- Absolutely necessary given the health insurance mandate and increased enrollment projections.
- This will greatly impact workers positively with regard to work, however, brings up concerns regarding if clients call with questions, workers have no working knowledge of the case if it was a "no-touch" situation. Also, question how fraud/overpayments and audits will work for these cases. Of course there are numerous errors when workers act on cases, but still feel that computers cannot replace the human aspect of our work. There are very few straight forward cases that it will be nearly impossible for programs to be written to account for all situations without workers having to do some kind of "fiat or work-around" unless there are numerous changes in policy made.
- Good for clients who can navigate the system
- "No-touch" would bring considerable efficiency, and through an algorithmic determination process consistency in eligibility will be found. However, without significant policy simplification and alignment, it is hard to believe that we will be able to navigate successfully through a "no-touch" system. IF it is achieved- it will bring efficiency.
- The benefit would depend on the results of the eligibility determination. In my estimation most client benefit from some county worker contact. It is unlikely clients using a no-touch system will avail themselves of the information provided.
- Depends if the client's answers are accurate. If they fill in something wrong and are given eligible results and then additional information is obtained and the client becomes ineligible, they will be upset with the County worker. We are a small community and we know many of the people who apply for financial assistance. We may question some of their self reported answers. Unless we either will not see any of the information or are instructed not to question any of the information. We have fraud concerns.
- Will be wonderful if it is used and if it works as a true "no-touch" (not so much if counties end up having to take phone calls from clients who are struggling with the system or having to correct system errors). Quality could come into question if clients don't provide the right information and the system takes incorrect actions in response.



- This may be general public that we don't work with now. This will be great for individuals with access to computers/internet as well as with the ability to navigate a website independently.
- I don't like the idea of assistance being issued without an approval from an eligibility worker it takes more time to reconstruct a case if all information was not given at application
- I really don't mean to be a 'doubting Thomas', but this could be monumental for both clients and workers!
- We have concerns about quality. The information is only as good as the client inputs into the system. In our experience with ApplyMN, we are finding applicants providing inaccurate or inconsistent information yet we are still required to act on the application for the program they are applying for despite those inconsistencies. For example, we have applicants that apply for child care assistance yet tell us they have no children. Program policy requires we must act on the application, and go through all the hoops to approve or deny.
- This would be excellent for client/customer service and would reduce the workload of financial workers, who will be picking up additional cases with the expansion of the Affordable Care Act.
- 16. Benefit: Streamlined case review process for more efficient outcome and performance measurement.
- Supervisors do not have time to do adequate case reviews due to high work demand. This would
  allow supervisors to do their job thus reducing errors and improving their ability to monitor workers
  performance and better identify where training is needed.
- Speaking for myself, anything that reduces worker responsibilities will mean that I am doing less
  casework as they cannot keep up with current caseloads. Hopefully this system would allow me to
  resume supervisory responsibilities where I would have time to review outcomes and performance
  issues...and it will be tremendously beneficial if the system is able to provide efficiencies in this area.
- Again, look at SSIS as an example of a program that works well for supervisors.
- This could be excellent. We need to help everyone (especially all supervisors) to do effective case reviews, in all client service areas. We suggest that the state define criteria that will prompt the system to require a case review in certain case situations, to enhance data and process integrity.
- Again, this feature looks very good, but is not my top priority for implementation of an automated financial/social services, and child support system. Being a small county, we are able to sample and review casework with staff without a problem. The time constraints tend to be the issue, not the review system.
- 17. Benefit: Increased worker mobility and remote capabilities for more extensive face-to-face client interaction and field work.
- We don't do work in the field at this time. Our social workers might find this feature helpful.
- Will improve workers abilities to work remotely and should have a large impact on spacing needs at the county level. Many workers would find more job satisfaction in this scenario and will reduce wasted, unproductive windshield time when doing field work.
- Data privacy is a huge concern with this capability.



- I see this more as a benefit to other units than to the income maintenance unit as there is very little field work necessary. This will benefit telecommuting which has been shown to increase productivity and quality of work for the most part; however, a great deal of our population continues to want faceto-face meetings and come into the agency.
- Won't directly benefit us at this point because we do not have staff working off-site. However, for those counties that do, I would say it would have a high rating for all three areas.
- Meeting the needs 24 hours a day
- Remote access is currently available (or can be made available) for many of the systems we use.
   However, it will likely improve the options available for staff to use in the field.
- This has been a concern that I have had for some time. Eligibility Workers have had the opportunity to
  do this in MAXIS for a long time and given a little knowledge, they can access from home computer as
  I am told. There is no way that I know how to monitor this. What safeguards are expected to be in
  place to have some control over access points?
- Current County policy does not allow this for most employees. However, it would be a benefit to counties that can successfully implement it.
- Eligibility workers are primarily in-office workers. This may allow for some flexibility in off-site work.
- 18. Benefit: Better operational data for management.
- I see this as being beneficial for statistical purposes and possibly realigning processes to meet the current need which should help efficiency see, but would hope that it would not improve the quality of work being done.
- This would be a good tool for management to identify trends, pull statistics and for planning for staffing and training.
- I have been reading a few right now and I will be surprised if the new system is capable of doing all these questions are saying it will do. I am a skeptic. I am worried about issues and problems which will reduce efficiency and also increase fraud. However, I am answering these questions as they are fact
- There is strong desire among managers for improved operational data. The content of the dashboards and access to the data for local cross-department purposes will matter.
- Initially the change may take some additional time, but hopefully, it will become a user friendly system.
- That will be a great management tool.
- I think that access to this operational data for management would be very helpful in making decisions for staffing patterns, efficiency of processing, identification of bottle-necks which could be resolved, and just better access to operational data that is very time consuming to collect at this time.
- 19. Benefit: Ability to customize systems and information (may require counties to contribute to systems implementation costs for customization).



- With many counties utilizing the case banking process, this will definitely enhance that process and be another tool to make the process successful.
- Case banking is a terrible way to provide customer service.
- I assumed these features would be mandatory in any new system and not optional, thus an additional cost to the county!
- Would consider this of utmost importance for those of us who have found case banking to be highly beneficial, however, wouldn't want to have to talk to the county board to get additional money for a state system.
- This sounds a lot like SSIS. Will this be onetime costs for enhancements or ongoing support costs?
- Our County currently uses OnBase to direct some of this activity. Increased efficiency may be moderate.
- May reduce error rates. Allows program specialization more easily.
- NO case banking here and that is not going to be a plan
- Local ability to manage this configuration will be necessary. When developing this capability, consider that counties vary in the degree of "generalist" vs. "specialist" requirements. Large urban counties may require a greater degree of specialization, particularly in a program like Child Support which is broken out into several discrete functions (Intake, Establishment, Paternity, Enforcement, Interstate).
- This is already done. I sure hope it doesn't require an additional contribution to implement the system we currently have.
- We do not case bank our cases are set up by program and by alphabet so that all social workers, clerical, child support, etc knows who the worker is.
- We are too small to do case banking so we would most likely not need to be customized.
- I am always cautious when I hear that counties may be required to contribute to system costs. Without knowing more details, I would be opposed to this.
- Some degree of flexibility would be needed so this sounds like a good thing.
- I do not support case banking at all.
- We already have this with our EDMS in Morrison. Having it connected with the eligibility system will help some. Most benefit to those counties without an EDMS.
- I am concerned about county contribution to system implementation. This is an unknown and I would be leery about any participation without knowing harder estimates.
- This could be very helpful in larger counties, but with only a small staff, we would not be any more efficient with case banking, rotating worker assignment, or assignment by benefit program. Our Financial Assistance staff is semi-generic, which means they handle multiple programs, but do specialize in some programs. For example, we have a Long-Term Care Financial Worker that also works with single Adults or Couples without children for Medical Assistance, SNAP, MSA, and GRH programs.



#### 20. Benefit: Reduced duplicate data entry.

- This would be helpful across all programs
- This will be amazing!!! It was hoped many years ago that the SMI would do this; it never happened the way it was intended to.
- Big brother is here.
- More accurate and up to date
- Accuracy of information would be a concern.
- Would be beneficial when client's have more than one worker, for example, an eligibility worker, child care assistance worker, child support officer.
- Allows departments to coordinate information. Some efficiency could be lost if inaccurate information populates the systems.
- Very important to both efficiency and quality. How the information is organized is important there is a risk that "too much information" could make it difficult for worker to find what they need. It will also be important to clearly identify the source and date of all data updates and to provide that information to system users. A risk with "one place" data storage is that a user could unknowingly (or willfully) overlay current data with older information. The fact that client self-service will be one of the sources of data updates makes it even more important to manage data updates well.
- If in fact it would actually reduce info input time that would be great. However that has not been successful in past endeavors. Good luck.
- Quality will depend on the validity of the information being entered. More access by greater number of entities would not necessarily mean greater quality.
- For quality, we don't know how to answer this. It could be high, it could be low, we settled on medium with this caveat... We have dealt with some of these issues between child support (PRISM) and public assistance (MAXIS)...who has better data? Should one system automatically update data and should that interface with other systems? This could work if there were strict guidelines and controls on who (which program) is in the best position to ensure the data is correct, or it could be disastrous. I can tell you that child support would not be too happy to have a non-custodial parent's address automatically based on a social worker obtaining a possible address via a third party, for example.
- Absolutely essential to coordinate services for clients/customers. This would be very helpful to all counties.
- WAY less duped work!!

# 21. Benefit: Better operational data for management.

- The current MAXIS system has very limited data available for supervisors to use and to analyze the current data available is time consuming and cumbersome to say the least. Need better reporting systems so supervisors can more effectively manage.
- Again, will allow counties to make adjustments in current processes which should improve efficiency, but will hopefully not drastically improve the quality of work done.



- We do this quite well manually now. Big time saver though
- Very valuable to managers. Non-county partners may have an interest in this too.
- 22. Benefit: More efficient information sharing/interfaces between community partners, external parties, and other stakeholders.
- Should see an immediate improvement in the ability for multiple service providers. One client may
  have to better communicate and have all information at hand to serve the client without having to wait
  days or weeks to get information from other partners.
- If the system is able to make referrals, it would only improve efficiency & quality of work if they would have access to view certain information.
- Great for counties already partnering and those considering doing so.
- As mentioned in an earlier answer, we have data privacy and release of information form questions.
- This would be valuable. Legal issues around data-sharing would need to be addressed in order to achieve the benefit.
- Privacy restrictions need to be addressed to remove barriers -
- This will help reduce the drain on the time of eligibility workers and social workers. Training or directions will be needed for non-eligibility workers.
- I am not real excited about allowing other "multiple county departments" and other "external partners" having access to this information. I do understand that "contracted case managers" needing access to specific client/customer information to provide services.

# **Client Benefits**

- 1. Benefit: Better scheduling and opportunity to more flexibly utilize resources to support clients.
- Anything that assists workers in doing their jobs will help us provide better client service. Again, the
  no-touch situations may prove difficult when clients contact us with questions on something we've
  never touched or taken action on.
- This may be a significant savings area.
- Will the work queues work something like this: an HRF has been received and the notified worker will then be able to electronically call up the document and use information to make necessary changes in the system?
- Per earlier comments, Wright County uses OnBase in Financial Assistance/Child Support; in these functions the increased efficiencies would be moderate.
- Scheduling on outlook is fast and easy now.
- Work queues don't have a direct client benefit. A scheduling component has a lot of pit-falls to be wary of (limited staffing resources combined with frequent client no-shows can potentially make it harder, not easier for a client to see a worker).



- Offering the customer the opportunity to set up an appointment that works for them without needing to call or come in would be a great client benefit.
- 2. Benefit: Improved access to case-specific client data and benefit/service data via Public Web.
- This will not have great benefit to most of our clients at this time. A few might use it but I suspect a small number.
- Rural counties have infrastructure issues in remote locations, not all clients have access to internet or understand how to use it.
- Very efficient way to gather new information. However, IM clients tend not to report changes.
- Not all clients have access to computers...okay for them to report via computer if they have access, as long as the information does not get changed without verification (i.e. address changes)
- For some clients this will be easier. For other clients, it will continue to be a struggle to report changes-- no matter what the reporting mechanism.
- Again, we are dealing with the same clients as we are now, while it may be easier for a client, I
  wouldn't expect to see any drastic improvements in this area. It will, however, benefit those clients
  who choose to use this option.
- Be interesting to see which clients can use this well. If they can navigate this, they should be it in their skills list on job applications.
- Technology allows efficiency and with rural areas assists in removing barriers to reach the county
  offices
- Will provide the client another avenue to report change.
- Please provide more information on how fraudulent data entry would be prevented. Would client selfreports be reviewed by a worker or could client reporting directly generate a benefit change? Would a client change on the web account generate a notice to the worker?
- If the client answers accurately.
- Staff will have to be checking the system regularly to see the additions which will take time. Until a
  routine is developed we may miss electronic notifications unless the system sends an email or alert
- Very valuable gain for efficiency, and possibly for quality (if it ensures that the change the client reports reliably gets to everyone in the agency who needs the information). There is a risk though of clients providing inaccurate or incomplete information.
- The sooner the changes are made, the sooner the worker can make the adjustments.
- I can assume that greater efficiencies will result contingent upon the self reporting is accurate and timely.
- This will reduce the amount of paperwork that customers need to fill out and return. Skeptics will worry about fraudulent reports but if the electronic verifications are in place that will be great.



- Would improve efficiency by automatically redetermining eligibility for specific programs with client/customer changes. It might also improve client/customer access, so their cases are not closed due to the untimely submittal of necessary case redetermination and review forms.
- 3. Benefit: Maximized, flexible client self-service and automated service delivery processes.
- Information will only be current if worker has entered, large caseloads will slow down processing time.
- Reduced calls to workers which will allow them to be more efficient and clients will receive the information they need more timely.
- Again this could be highly beneficial if the client is willing to use the system and has easy access to a computer.
- Most efficient if client will be able to access the 'reason" case is pending or waiting approval. i.e.; missing verification or proofs.
- Again, may vary metro vs. out-state, but considering those we currently serve, do not see this making
  a drastic impact to clients as clients will continue to contact the agency directly regarding information
  that may be available to them through other methods. It will benefit, however, those few who may
  choose to use this option.
- Will be an advantage for some clients.
- This would free up a lot of eligibility worker time.
- If they understand what they are reading on-line.
- Again, great for clients with computer/internet access
- Currently, clients call the agency to check on these benefits, so it they can check for themselves, it should save time, especially for those who own a computer.
- Clients still may not like or agree with what they are seeing and will seek a way to change it.
- This would reduce the number of calls we get checking on the status.
- This will be a benefit if it turn truly reduces the amount of casework required by the agency.
- Absolutely essential for client/customer service in this day and age. The clients should access to this
  information in order to check on their status of a benefit payment on-line. I already gave a number of
  examples of how the general public has access to their financial information via banks, the IRS, and
  Health Insurance Companies.
- 4. Benefit: Increased access to help with program-related questions via help desk/call center.
- Most of the clients tell me they hate call centers and automatic responses.
- To make this work a call center must be adequately staffed with well trained personnel to provide immediate customer responses and responses must be correct.
- IVR is already available to child support clients.



- It would ensure that all calls are returned timely; however, many calls are not just to answer questions and result in some action needing to be taken. I don't know that clients will feel that someone just answering the phone and not being able to take action will be a huge benefit to them.
- The staffing would need to be sufficient to meet the needs.
- If this means there will be a client call center for individuals applying on-line.
- Some percentage of the clients want to talk to a person.
- Hennepin's centralized call center experience did not yield the results expected because of the complexity of policy and frequent need to forward a caller from a call center operator to their assigned caseworker. Hennepin already has an IVR and this does help clients. (Counties without an IVR would probably rate this as a high benefit).
- This component would save staff time by allowing clients and service center staff to access client information via the Interactive Voice Response (IVR) system.
- 5. Benefit: Faster follow up on client complaints and incidents.
- Clients seem to call with issues...not sure that having this available on line will benefit them any better.
- Clients are currently very efficient at recording complaints via existing systems. I don't know that using a workflow to assign someone to respond will improve efficiency.
- This may make the client happy but clients are human and are going to complain even if you are doing everything timely and accurately on their case...would be concerned that the system will record and act appropriately in these situations. A client applied 3 days ago and continues to call because she wants the case processed immediately. Many have applied before her and we do not even have the verifications necessary to take appropriate action and we have 30 days to process...who makes the determination on whether this should be referred/assigned for someone to respond?
- Less frustration , quicker processing
- Most clients want to talk to a person when there is a complaint.
- Complaints many times come from hearing they do not qualify. Staff has difficult jobs to begin with to hear complaints that are based more on rules than on the workers, but the workers get the target. However, some complaints are legitimate and are good to hear but we have a system in place making this easy already.
- Counties may not be staffed/equipped to respond to the potential increase in complaints.
- For those who have access to computers, this would be great.
- A tracking system for this would be very helpful. Hopefully it would identify frequent issues and allow for system/program/policy changes if needed. A good management/training tool.
- Many times clients/customers are reluctant to complain in a small agency, since we have limited staff to serve their needs. This new system would allow them to record comments and complaints in a more comfortable setting.



- 6. Benefit: Better agency performance and compliance information.
- It will be good to have state-wide consistency in how these performance metrics are tracked.
- PRISM already gives us a time frame so we know where we are at with a case...not a new benefit
- The current system already does this. Unless the system is able to figure out if everything necessary
  is available/provided and it has the capability of taking action automatically, it's not going to be much of
  a benefit to the client.
- This will track areas needed for improvement.
- This exists now for some programs but not others; it isn't as pronounced as it should be. Timely action
  is very important to the clients and to providers.
- MAXIS and other systems currently track that information
- Workers should be checking REPT/PND2 every day, but it's an extra step, so if something popped up automatically, it would be great.
- This benefits the County for work quality purposes not sure how it helps the client although, high quality agency performance should benefit client
- If pending cases are on worker home page this will be very helpful. Right now we have a way to see how long cases are pending. If the new system has a separate place to look then there is no improvement.
- Built in accountability is a good thing. Also needs to include some sort of reason code or something to explain reason for delays. Some things are outside of our control.
- 7. Benefit: Rapid assessment of client need for services
- Clients will receive more timely information on appropriate and available services for them.
- With proper verifications submitted.
- Clients could possibly benefit from this; however, this will be based on what is entered by the client. It
  will not take into account any specifics regarding the client's situation which may affect eligibility and
  would probably be unable to make appropriate referrals to local resources when appropriate,
  especially when resources change consistently due to funding obstacles throughout the year.
- In counties that screen/triage, you may find a comparison group to quantify the improvement.
- Clients screened out of the system may still rely heavily on County staff to resolve.
- If the client provides accurate information. Again, complicated systems with many eligibility variables.
- Our county has a Broader Needs Assessment tool but it currently sits inside the county network we would like to provide it as a client-facing tool.
- For those with access to computers, that would be great.


- Will likely need a human touch navigator.
- I will be interested in seeing how this rolls out. Everyone has their own definition of an emergency. Sometimes we agree on what is an emergency and sometimes we don't.
- If clients articulate and answer questions correctly, this could be a benefit to them.
- 8. Benefit: A broader triage, initial screening and assessment of client needs for cross-Agency programs and services.
- Should resolve client issues with being referred to many different areas, only to be referred back to where they started. More customer service friendly and less waste of staff time.
- This would be wonderful if it could be set up to work again, our county makes numerous referrals to
  outside resources but these may change on a monthly or even weekly basis depending on funding
  sources or already accessed by the client.
- Since there can be multiple issues in one's life this will allow needs to be better addressed and served in totality.
- Assessing gaps between what a screening may result with and what a true program eligibility determination might be will be necessary so we can manage quality of the screening process.
- Many of our clients have limited attention span or health concerns to complete lengthy questions/application
- This is all dependent upon how much input DHS listens to from current county staff that work the programs on a daily basis and know the detail needed to make a determination.
- Only beneficial to the extent that information is accurate and up to date.
- Our county's Broader Needs Assessment leverages MinnesotaHelp.info. It would be great to enhance that connection to actually send referrals to service providers.
- This may be capable of improving efficiency and quality if other programs and services are interconnected and do not require duplication of data entry.
- It would be good to be able to help clients with other referrals automatically.
- With this built into the system we can better catch situations that should be referred on to social services such as long term care waivers.
- This will greatly improve efficiency and quality for client.
- I would suspect if the system works as programmed, there will be efficiencies and quality improvements achieved.
- 9. Benefit: Improved client service planning and outcome tracking via multi-disciplinary teams.
- In theory, this could have significant impact on quality.
- Worker training will need to be completed to determine if this is more efficient and helpful



- In our agency, we already have a number of multi-disciplinary teams. There are instances when it is much better to learn info during in-person situations, rather than read on a screen.
- This should save time for the workers.
- This one concerns me as there are so many 'service plans' required by the department that are population/program specific. Which ones will trump the others? I'd be concerned about adding confusion rather than clarifying things.
- This improves efficiency for counties as well.
- I would hope that service plans are reasonable and become the means to an end and not an end onto itself.
- 10. Benefit: More defined and seamless case management services and collaboration across programs.
- As long as appropriate information is updated, this would be extremely beneficial. Not all program
  areas require as much detailed information as the income maintenance department and sometimes
  inaccurate information has been entered which ends up taking considerable time to review and
  correct...sometimes at the State level.
- Can't quite see how data privacy will allow all of this but if true it will be nice.
- Having case plans be transparent to all program areas (outside of just financial assistance) is always helpful. Data privacy laws can be prohibitive to this being a reality across all programs at this time.
- Throughout this survey I've responded that the benefits are not quantifiable. To quantify the impact would require a sophisticated evaluation study that we do not have the capability to fund and I doubt that DHS will have funding either. Even if such a study were done, it would only generally measure efficiency improvement, not tying improvement to the individual benefits listed in this survey. Also, the quality improvement is not measureable except perhaps in lower error rates (SNAP or MFIP). Lack of clear measurability for efficiency or quality doesn't mean they don't occur just that they are very difficult and expensive to measure.
- In order to set up a collaborative plan across program areas, all of the program rules must be taken into account. For example, a child with disabilities may have program rules for their school, their county case manager, their habilitation provider, etc. so all rules need to be included. Also, how will security be addressed so that one program cannot update/change information for another program?
- Clients won't have to tell their story over and over
- This will be awesome IF it applies to all current DHS legacy systems.
- Workers have contact with many other providers, so a 'one-stop shopping' idea is good.



## **Appendix B: Additional Benefits**

#### Additional Benefits to Counties (identified by counties via survey response)

- An integrated Service delivery system across multiple programs will also create efficiencies for the system as a whole, at both the state and county levels, as opposed to just the individual county level. This includes improved outcomes and more efficient service delivery for clients who move frequently across programs and counties within the human services system.
- Worker morale and worker retention. Dealing with the population that is served can be very difficult alone, but it sometimes makes it almost unbearable when you are working with a system which requires the amount of fiats/workarounds that the current system requires to get "somewhat" accurate results.
- Easier to train new staff on a web based system as opposed to legacy mainframe systems.
- Currently, there are many county-based forms to fill in the state system gaps (i.e. collect or communicate information that state system notices do not handle). If the new system fills that gap by integrating electronic forms into the system, or reducing the need for counties to send forms out to clients, it would be a huge benefit.
- The electronic application submitted would auto-populate many of the fields in the system (i.e. name/address & other demographic info).
- Income Verification
- Eliminate all of the work-arounds and FIATS
- More efficient and effective way to train new staff
- The system has to be user friendly with training across all programs. The work flow process has to be streamlined.
- Monthly data downloads that would provide specific caseload information that could be presented to
  our County Board of Commissioners. This printout could be automatic and provide a management
  tool for human service supervisors and directors. Some of this may already be in the system, but we
  currently need to separate the information by programs and determine how we can present it to our
  County Boards in an organized fashion.
- Improved worker accuracy, especially if income is system-entered rather than worker-entered.
- Reduced number of systems for staff reduces time wasting moving between systems and is easier to support one system.
- An effective provider portal to facilitate communication between county agencies and their partners would reduce the huge amount of fax correspondence we currently have to deal with. Faxing is hugely inefficient, but it is used extensively out of necessity. We would love to eliminate that.
- Interface with SSIS and other programs to ensure same info across all programs and services



- Implementation of a Cheat Sheet/Checklist for Financial Workers, to make sure that they have completed all required screens/data input for the eligibility determination of the program. Maybe this is already incorporated with this "new system", but the learning curve to implement this system could be very challenging. The Cheat Sheet/Checklist could be helpful to Financial Workers, Social Workers, and Child Support Officers.
- 3rd Parties (employers, attorneys, collateral parties who are actively involved in helping a family or individual but are not a "member" of the case) should be able to provide information to the agency through a secure electronic method, perhaps through a variation on the public portal.
- Auto-fill fields name, address, phone, SS#, etc... after entering one time.
- Implementation of "one-wide screen" computer system for all work stations, so human service staff does not have multiple screens sitting on their desk. We have not gone to multiple screens and hopefully the new automated system will not require them, but allow for split screens instead.

#### Additional Benefits to Clients (identified by counties via survey response)

- Adding client self-service capabilities encourages the self-sufficiency behavior we want to promote. Our existing systems force clients to be dependent on their caseworkers.
- Explanation of the programs/services available. Maybe a resource area to read about programs/services/eligibility requirements.
- Integrating Client, County and Community Resources will benefit all.
- The ability for a client to interact with programs or services when it is most convenient for them, instead of being limited to county office hours.
- An area to do a self-test/sample where they can enter their income, assets, etc., to see if or what benefits they could be eligible for.
- Demonstrating that government services are being delivered via 21st century methods would improve public perception of Minnesota's ability to provide effective human services.



## Appendix C: Key Features of the ESM Architecture

The Functional Model (as described in the Logical Architecture Report) identifies detailed functional requirements and key features to be supported by the Enterprise Systems Modernization future-state IT architecture. KPMG summarizes those requirements below:

Single Shared Client Data Base and Common Case Management to support all in scope DHS Programs and Services

- This provides:
  - Ability to share data across programs and cases (as privacy rules permit) while eliminating need for duplicate client or case data entry
  - Maintenance of client/family relationships
  - Ability to align and integrate service plans across programs
  - Case banking and teaming
  - Integrated Eligibility Determination
  - Integration of client documents and images
  - Ability to align and improve policy across programs (to simplify program rules where appropriate)
  - Ability to customize workflow within policy constraints

#### **Client Self Service**

- Provide Clients Access via Web Portal and Mobile Devices to:
  - Policies, program and service information, including client program notifications
  - Service request applications
  - Appointment scheduling
  - Self-assessments
  - Case status inquiries



- Case history inquiries
- Provider information inquiries
- Payments
- Provide Clients Access via IVR to:
  - Program and service information
  - Case status inquiries
  - Appointment scheduling
- > Provide Clients Access via Text Messaging to:
  - Client notifications, appointment reminders

#### Client Support (Call Center)

- Provide Clients with:
  - Program and service information inquiries
  - Case management inquiries
  - Appointment scheduling
  - Service application assistance

#### **Document and Content Management**

- In support of:
  - Client related documents and images integrated with case data
  - Program and service policy and procedure content collaboration and publishing

#### Provider / Contract Management

- In support of:
  - Integrated provider registry
  - Ability to manage provider certifications, qualifications, licenses
  - Ability to manage provider contracts



#### Program and Service Management

- > To provide:
  - Maintenance of master program and service catalogue
  - Service rules management configuration of eligibility rules, workflow rules
  - Maintenance of master service delivery locations
  - Definition of service access methods available by service
  - Maintenance of staff program and service qualifications
  - Maintenance of staff schedules and work assignments

#### Program Financial Management

- > To provide:
  - Ability to manage overall program budget
  - Ability to track program funding allocations state, county and client levels

#### Business Intelligence

- State and County Operations
  - Performance Dashboards
    - Internal program views, organizational views
  - Operational Reports
- Contract Provider Performance Reporting
- Program evaluation and program, service and policy design
  - Simplified data marts and tools to support end user ad hoc query
- Audit
  - Data analytics
- Federal Government Compliance Reporting
- Public Reporting



- Public Reports
- Public performance dashboards

#### Data Integration

- Local Service Providers
  - Master Client Data (where local client DB's exist)
  - Financial transactions integration with local financial systems
  - Documents integration with local document and imaging
  - **3**11
- State Systems
  - SMI
  - MMIS
  - SWIFT
  - Avatar (SOS)
  - Phoenix (MSOP)
  - EHR (EPIC)
  - Court Systems
  - Other State Systems (to be determined)
- Federal Government Systems



## Appendix D: County Survey Responses

Participating Counties	County Survey Response Count
Anoka	2
Becker	2
Benton	5
Blue Earth	3
Brown	2
Carlton	1
Carver	1
Cass	1
Chippewa	1
Chisago	1
Clearwater	1
Cook	3
Crow Wing	1
Dakota	5
Douglas	1
Freeborn	1
Goodhue	1
Grant	1
Hennepin	5
Houston	1
Hubbard	1
Isanti	1
Itasca	3
Kandiyohi	1
Kittson	1
Koochiching	1
Lake of the Woods	3
LeSueur	1
Martin	3
McLeod	3
Meeker	4
Mille Lacs	4
Morrison	3
Mower	1



Nicollet	7
Norman	1
Olmsted	5
Pennington	7
Polk	1
Роре	3
Ramsey	9
Red Lake	1
Renville	1
Rice	1
Roseau	1
Scott	2
Sibley	3
St Louis	1
Steele	7
Swift	3
Traverse	1
Wabasha	4
Wadena	1
Washington	6
Wilkin	3
Winona	4
Wright	9
Yellow Medicine	2



# State of Minnesota

Feasibility Study

FINAL

kpmg.com

## Purpose of this document

This feasibility study documents the risks associated with the most viable alternative presented in the Alternatives Analysis deliverable. It arrives at a proposed recommended risk management solution for integrated human services program and service oversight and delivery.

#### **Document History**

Version	Description	Date
1-4.0	First TOC and Outline	January 9, 2013
5-7.0	Adding Content	March 4, 2013
7.0-16.0	Adding Content and Incorporating Edits	March 7, 2013
17.0-20.0	Incorporating Jennifer's edits and additional content	March 12, 2013
21.0 -24.0	Incorporating final feedback and comments	May 1, 2013

© 2012 KPMG LLP, a U.S. limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International, a Swiss cooperative. All rights reserved. Printed in the U.S.A.



# Table of Contents

Table of Contents	1
<ol> <li>Executive Summary</li> <li>Report Overview</li> <li>Approach to developing the Feasibility Study</li> <li>Summary of Alternatives Analysis</li> <li>Risk Analysis Summary</li> </ol>	3 3 3 3 4
2 Introduction2.1 Project Mandate2.2 Project Scope2.3 Purpose of this Report	5 5 5 6
3 Current State Summary	7
<ul><li>4 Alternatives Analysis Summary</li><li>4.1 Summary of Alternatives Analysis</li></ul>	8 8
<ul> <li>5 Risk Analysis</li> <li>5.1 Risk Management Framework</li> <li>5.2 Risk Management Process</li> <li>5.3 Risk Analysis</li> <li>5.4 Risk Analysis Conclusions</li> </ul>	10 10 10 15 23
6 Feasibility Conclusion	24
Glossary of Acronyms	26

## List of Figures

No table of figures entries found.

#### Disclaimer

The purpose of this report is to document observations that came to our attention during our work and to offer our comments and recommendations for the State of Minnesota's consideration. Our procedures consisted of inquiry, observation, and analysis of provided information. Such work does not constitute an audit. Accordingly, we express no opinion on financial results, processes, other information or internal controls. The State of Minnesota is responsible for the decisions to implement any recommendations and for considering their impact. This report is meant solely for use by the State of Minnesota and may not be reproduced or shared with any third party without KPMG's consent except as may be allowed by the terms of our contract agreement.

K. 24.//G



## 1 Executive Summary

## 1.1 Report Overview

The purpose of this report is to document the feasibility of successfully migrating to a modernized architecture for the State of Minnesota Department of Human Services (DHS) Enterprise Systems Modernization (ESM) plan. This report focuses on the alternative identified as most viable in the Alternatives Analysis. The feasibility study is intended to guide DHS's decision-making process in identifying potential and inherent risks for the implementation of solutions over the next several years to realize DHS's Integrated Human Service Delivery vision for the citizens of Minnesota. The analysis weighs benefits, risks, and challenges, and furthermore serves as input to develop a multi-year DHS ESM Transformation Roadmap to implement the future state information, applications and security architectures. The project's end goal is the realization of an operating model that allows for improved systems and information.

#### 1.2 Approach to developing the Feasibility Study

The Feasibility Study was developed as a continuation of the development of the Alternatives Analysis. It takes a further and in-depth look at the strategic options identified for DHS's consideration as a result of the gap analysis. The strategic options include maintaining the status quo, a complete reacquisition of system(s), a mix of legacy systems and new systems, or the use of and integration with Cúram.

As part of our evaluation of the strategic options presented in the Alternatives Analysis, KPMG analyzed the benefits as well as risk and challenges of each of the proposed alternatives for DHS's consideration. As a result and based on weighing each of the alternatives, KPMG proposed a recommended solution that best aligned with DHS's vision of a people-centered human services delivery system and better alignment with the mission of the Agency.

#### 1.3 Summary of Alternatives Analysis

KPMG has identified four potential solutions for DHS's consideration:

- Alternative 1: Do Nothing
- Alternative 2: Leverage Existing Systems
- Alternative 3: Leverage the Health Insurance Exchange (primarily Cúram)
- Alternative 4: Use a Hybrid Approach



After performing a gap analysis comparing legacy and potential future systems to the target operating model's requirements, and conducting an assessment of the alternatives, it became apparent that Alternatives 1 and 2 are not viable (refer to the Alternatives Analysis report for details). Consequently, KPMG focuses this feasibility study on Alternatives 3 (Leverage the Health Insurance Exchange) and 4 (Use a Hybrid Approach). Based on the alternatives assessment, there are few differences between these approaches, and the risks and feasibility of these approaches are similar.

### 1.4 Risk Analysis Summary

DHS faces a wide range of risks with its implementation. Some risks can be planned for and mitigated in advance; other risks may be discovered as the project proceeds. KPMG recommends that DHS develop a comprehensive project management plan that places a strong emphasis on risk identification and control procedures. Establishing a detailed plan – and requiring resources to adhere to it – reduces DHS's exposure to risk and increases the chances that DHS will reach its modernization objectives.



## 2 Introduction

## 2.1 Project Mandate

DHS has engaged KPMG to assist the Department in moving forward with its vision for an integrated human services delivery system and Enterprise Systems Modernization (ESM).

Specifically this initiative is intended to develop a strategic plan and roadmap for Enterprise Systems Modernization that supports DHS's vision for state-wide integrated human services delivery.

## 2.2 Project Scope

The project scope includes the development of the following key deliverables:

- Funding Approach
- Requirements Analysis
- Cost/Benefit Analysis
- Feasibility Study (this report)
- Alternatives Assessment
- Transformation Roadmap
- Request for Proposal Outline

As part of the Enterprise Systems Modernization project, all DHS programs are considered initially to be in scope for analysis.

The project is taking an integrated, functional view across all programs. The following Cross Program Functions are considered to be in scope:

- Eligibility/Disability Determination
- Enrollment in Programs
- Case Management
- Fraud, Waste and Abuse
- Compliance
- Claims Tracking
- Performance Management and Business Intelligence
- Data Management
- Other Functions needed to support DHS Programs

The project is intended to align and Integrate with the following initiatives (but not duplicate their analysis and plans):



- Health Insurance Exchange the ESM project intends to leverage solutions, infrastructure, and business capabilities from HIX as appropriate, and identify integration requirements
- Health Care Programs Eligibility (to be handled by HIX and existing funding for modernization of those health care programs already supported by MAXIS and MMIS) – however the ESM project will identify integration requirements with Health Care Programs
- MMIS Modernization (Claims Processing/Payment) the ESM project will identify integration requirements with Claims Subsystem of MMIS

Therefore, the following are defined as <u>out of scope</u> for the Enterprise Systems Modernization planning project:

- Health Insurance Exchange the ESM project will not replicate requirements and plans for the HIX, but will identify integration required
- Health Care Programs Phase 1 (initial functionality) the ESM project will not replicate requirements and plans for the first phase, but will identify integration required
- MMIS Modernization (Claims Processing) the ESM project will not replicate or include requirements and plans for the MMIS Modernization (separately funded effort), but will identify integration required and some functionality currently in MMIS will likely be moved, in part due to recommendations coming from this Modernization plan
- "Back Office" functions such as HR, Finance, Asset Management, and Procurement functions (other than to identify interfaces required to financial and HR business functions and systems)

## 2.3 Purpose of this Report

This Feasibility Study documents the practicality of each of the strategic options presented in the Alternatives Analysis deliverable and develops a proposed recommended solution for integrated human services program and service oversight and delivery.



## **3 Current State Summary**

Each of DHS's primary legacy systems (MAXIS, SSIS, and PRISM) went into production at least 15 years ago. MAXIS and PRISM are built on an ADABAS/NATURAL platform, while SSIS is designed as a client-server application (appropriate 15 years ago) using primarily Delphi with Oracle as the database. These legacy systems have supported DHS programs reasonably throughout their lives, with respectable lifespans for information technology systems. They are increasingly expensive to maintain, difficult to learn and often difficult to modify. Ongoing modification and enhancement is a necessity for compliance with legislative mandates, and ongoing support of programs that must change to adapt to changing public needs. Furthermore, as the technologies used by these systems drift further from the mainstream, specialized support resources with the knowledge needed to maintain the applications become both more expensive and tougher to find, and knowledge of the systems is lost as staff retires or moves on. The market of skills in these technologies is likewise diminishing.

KPMG's Alternatives Analysis Report contains a gap analysis evaluating DHS's legacy systems against requirements identified for DHS's future state target operating model. The analysis notes that several DHS systems, including MAXIS, PRISM, and portions of SSIS, as mentioned above, rely upon technologies that are aging and considered not strategic. Additionally, business functions and processes identified as part of the target operating model would either not be supported by legacy systems or require manual user interaction. Reliance on non-strategic legacy infrastructure may challenge DHS by limiting system capabilities, and would most likely diminish the State's chances of achieving the benefits of an integrated human services delivery system.

The primary driver of the need for systems modernization is the business vision for integrated DHS program delivery, as documented in the Requirements and Logical Architecture Report. In addition, the State has established a technology direction to migrate off of traditional mainframe technology by 2015, so that aging technology platform can be decommissioned and DHS has established standard platforms for the future as Java, .NET and Oracle.

The availability of enhanced federal funding via relaxed federal cost allocation rules through December 2015, coupled with the State's decision to implement a state-based Health Insurance Exchange, present DHS with a unique opportunity to create a modernized enterprise systems environment that captures extensive benefits for clients while reducing administrative burdens on the State and counties. The benefits of this strategy are described more fully in the Cost/Benefit Analysis Report.



## 4 Alternatives Analysis Summary

### 4.1 Summary of Alternatives Analysis

DHS's strategic options to realize its vision for an integrated human services delivery system can be categorized into four primary options for evaluation:

- Alternative 1: Do Nothing
- Alternative 2: Leverage Existing Systems
- Alternative 3: Leverage the Health Insurance Exchange (primarily Cúram)
- Alternative 4: Use a Hybrid Approach

Each option has benefits, risks, and challenges, including functionality provided, cost savings opportunities, implementation challenges, training required, and compatibility of coexisting technology platforms.

After documenting the results of the alternatives analysis, which featured a detailed gap assessment and feedback from system administrators and users, KPMG determined that alternatives1 and 2 were not viable. KPMG has further analyzed some inherent risks with each alternative.

**Alternative 1:** *Do Nothing* is impractical due to its inability to meet future state functional and technical requirements. This alternative states that DHS will continue operating using its legacy systems.

**Risk:** Selecting this alternative prevents DHS from meeting the business objectives identified in the integrated service delivery vision, and meeting the requirements of the target operating model. It will promulgate and increase the continued complexities of the current legacy systems. It will increase the operational risks of relying on these systems as technologies age, skills become scarcer, and vendor support for underlying technologies becomes more expensive or is discontinued. This will make it increasingly difficult to support the continual changes to program policy, to meet changing public needs. Continued reliance on legacy systems and technologies by 2015. Technologies will continue to age, decommissioning of the mainframe will be impossible, expenses will rise, and functional change will be increasingly difficult, making a "21<sup>st</sup> Century User Experience" impossible or impossibly expensive.

Alternative 2: Leverage Existing Systems is not considered viable as a means of supporting the integrated service delivery vision and target operating model requirements, due to shortcomings in both technical and functional areas. The technical factors limiting the use of existing systems center on aging platforms not considered strategic, including MAXIS and PRISM (ADABAS/NATURAL) and SSIS (Delphi front end), and the associated reduction in availability of resources to support it – similar to the risks of alternative 1.



**Risk:** If DHS were to select Alternative 2, it would face risks common with aging systems, including high maintenance costs and difficulty retaining resources with the skill sets to maintain and upgrade systems. The costs associated with integrating existing systems, or selecting the most viable of existing systems to be expanded and enhanced across programs, is likely to be substantial, and the risks of successfully leveraging these technologies to meet key future state requirements is high..

**Alternative 3:** Leverage the Health Insurance Exchange solution (primarily Cúram) provides a viable path to meet the business vision and Target Operating Model requirements. Alternative 3 generally calls for DHS to replace legacy systems with Cúram or other built and/or acquired components, whereas the Hybrid approach (below) allows DHS to consider legacy tools when they may be able to meet DHS needs.

**Risk:** Selecting this approach places DHS at risk of replacing legacy systems that may be able to be leveraged for the future. Additionally, there is a risk that the existing complexities in business processes currently supported by legacy systems would simply be moved and rewritten into Cúram without the process of simplifying and streamlining processes.

**Alternative 4:** Use a Hybrid Approach, grants DHS the most pragmatic of the four alternatives to meet the requirements established in the Target Operating Model. It enables the leveraging of existing technologies where it is practical to do so, while largely relying on the Health Insurance Exchange solution set to meet most requirements.

**Risk:** For some components, the risks laid out for Alternatives 1 and 2 would still exist. Replatforming away from the mainframe may be possible for some ADABAS/NATURAL components, allowing the mainframe to be retired, though the costs are likely to be significant. The non-standard technologies of ADABAS/NATURAL would continue to require maintenance, leaving some of the risks identified above still extant.

The rest of this report focuses on feasibility as it relates to alternatives 3 and 4. Detailed risks for these alternatives are similar, and are provided in the more comprehensive risk analysis below.



## 5 Risk Analysis

## 5.1 Risk Management Framework

Large IT-enabled change initiatives and the underlying investments they require are frequently under-estimated, due to the numerous risks associated with them. As for DHS, systems modernization in Health and Human Services is a significant business transformation that not only impacts the Agency, its service delivery partners, and the State, but also the public and a series of other enterprises.

Large scale system modernization initiatives should be viewed as change initiatives that impact:

- business policy, practices and processes across multiple enterprises,
- the people, roles, responsibilities, and organizational structures within these enterprises
- the information systems and technology solutions that support the new policies and practices

As such, large scale system modernization and IT change initiatives carry a distinct set of internal and external risks that will need to be mitigated.

Effective Program and Project Management and Quality Assurance are key support functions to DHS's leadership and governance bodies to manage the resources, costs, schedule, and quality of the project. Ongoing risk management is a key to help ensure that governors and managers of the project have early warning if quality issues and concerns arise, and help ensure that operational risks will be minimized once the solution goes into operation.

Architecture integration is another key to reducing overall project risk by helping ensure that all components fit together to perform the required functions supporting the DHS's business. It also contributes to optimizing the flexibility of the integrated health and human services solution in adapting to new or changed business rules or requirements, and thus contributes to optimum life cycle cost of building, maintaining and operating the solution, and to supporting the long term sustainability of integrated health and human services delivery.

## 5.2 Risk Management Process

Risk Management is the process of identifying, analyzing, and mitigating issues that may adversely affect the ability of the project to meet its stated goals and objectives. Risk Management is concerned with addressing events and issues that may negatively impact the project team's ability to deliver and meet the stated goals of the project within scope, on budget, and on time.



Most importantly, risk management does not occur at a specific point in time, for example at the beginning of the project, but rather throughout the process by being imbedded in the Program Management function. Risks are monitored throughout the project as their likelihood or impact ratings change and new risks emerge.

The Roadmap includes resources to carry out ongoing risk management, in addition to the specific mitigation activities noted in section 5.3, below.

The approach to managing risk involves the identification and monitoring of both risks and issues. The distinction between risks and issues is that a risk is an event that has not yet occurred, while an issue is a risk that has been realized.

Ongoing Risk Management is carried out through the following steps:

#### 5.2.1.1 Identify the Risk/Issue

Possible risk events that may have some negative impact on the project are identified and documented in a Risk Log. This process involves soliciting feedback of the project team to build on lessons learned through other similar State or Agency projects. Analysis of the project's status reports and work plans along with attendance at project meetings also result in documentation of additional risks and issues.

#### 5.2.1.2 Qualitative Risk/Issue Analysis

A qualitative risk analysis assessment is performed on each of the risks and issues identified. Each risk is assessed with respect to the impact should the event occur along with the probability of the risk occurring. Issues are only assessed for impact as, by definition, this event is already occurring and therefore the probability is 100 percent.

The following example of an impact table may be used for both risks and issues:



### 5.2.1.2.1.1 Impact

Value	Description
1	Very low impact: slight effect on progress
2	Low impact: progress disrupted with moderate extensions to schedule and cost, across short and medium terms
3	Medium impact: significant disruption to project schedule, cost, and products over the medium and long terms
4	High impact: significant disruption to successful delivery of project objectives, products, and benefits
5	Very high impact: threatens success of the project

### 5.2.1.2.1.2 Risk Probability

Value	Percentage of probability	Description
1	0%–20%	Very low occurrence
2	20%–40%	Low occurrence
3	40%-60%	Medium occurrence
4	60%-80%	High occurrence
5	80%–100%	Very high occurrence



#### 5.2.1.2.1.3 Risk Rating

Risks are assigned a rating of **high, medium,** or **low** (red, yellow, and green, respectively) based upon the product of impact and probability shown in the table below:



#### 5.2.1.2.1.4 Issue Rating

Value	Description	Rating
1	Very low impact: slight effect on progress	Low
2	Low impact: progress disrupted with moderate extensions to schedule and cost, across short and medium terms	Low
3	Medium impact: significant disruption to project schedule, cost, and products over the medium and long terms	Medium
4	High impact: significant disruption to successful delivery of project objectives, products, and benefits	High
5	Very high impact: threatens success of the project	High

Utilizing the impact scale shown above, issues are rated according to the following scale:

#### 5.2.1.2.1.5 Project Risk Rating

The final qualitative assessment for both risks and issues is to assess severity, based upon the time criticality of the risk or issue. The following scale and corresponding assessment chart may be used to classify risks and issues as urgent, high, medium, or low.



Level	Description
Immediate	Impacts the project now, or will impact the project or require resources within the next month.
Short Term	Will impact the project within the next four months.
Long Term	Will impact the project at a future date greater than four months.

Risk Rating	High	Medium	Urgent	Urgent
	Medium	Low	High	High
	Low	Low	Low	Medium
		Long Term	Short Term	Immediate
			Time Criticality	

#### 5.2.1.3 Risk Response

While not every risk jeopardizes the project, the project team would do well to develop a risk mitigation strategy that may include the following actions:

*Eliminate Risk Event* – The risk is not accepted because its impact is determined to have little or no significance to scope, schedule, or budget. Or, if the triggers for the risk event have passed, the risk item may be closed.

*Control and Mitigate* – This is the most common and preferred action. The project team defines activities into the work plan that mitigate the probability and impact of the defined risk. The mitigation activities should be assigned to a resource and tracked on a periodic basis by the project team. In the event that the risk occurs, the project team defines a response plan to reduce the impact on the project.

*Transference* – If proper risk control activities cannot be implemented, the project team may choose to share the risk with project stakeholders. In this situation, the Project Manager formally communicates the risk and agrees to a mitigation and response plan with the appropriate designee.

As stated above, the process of identification, prioritization, and response planning is should be performed on a regular basis. Risks are reevaluated, mitigation activities are tracked, and new risks are integrated into the risk log.



### 5.3 Risk Analysis

The below table provides a detailed overview of common risks for large system modernization initiatives and the impact on the organization as well as mitigation strategies. KPMG identified high level risks for each alternative in *Section 4.1. - Summary of Alternatives Analysis.* Given that alternatives 3 and 4 are the most viable, this section focuses on risks relevant to those alternatives, and the mitigation strategies that are required to reduce or avoid the risks associated with alternatives 3: *Leverage the Health Insurance Exchange solution (primarily Cúram)* and 4: *Hybrid Approach.* The risks below are relevant to both alternatives, unless noted otherwise.

Risk Description	Probability of Occurrence (1-5)	Impact	Impact on Project (1-5)	Mitigation Strategies
Business and/or technology components delivered by this project are not aligned with and do not effectively integrate or inter- operate with components delivered by other projects	2	Schedule and budget will be compromised; dependent projects will be impacted, as well as involvement, commitment, adoption, and realization of benefits.	4	Enterprise Architecture and Solution Delivery life cycle, methods, standards, tools, and governance processes are designed to mitigate this risk. It is essential that methods and standards are applied intelligently and appropriately to ensure consistency and quality, and deliver the intended outcomes.
Difficulty in updating and integrating legacy technology ( <b>specific to</b> <b>Alternative 4</b> )	3	Schedule and budget will be compromised; dependent projects will be impacted, as well as involvement, commitment, adoption, and	3	A detailed assessment of the viability of legacy technology is recommended to determine the feasibility of upgrades and integration.



Risk Description	Probability of Occurrence (1-5)	Impact	Impact on Project (1-5)	Mitigation Strategies
		realization of benefits.		
Resistance to change introduced by the project	3	Adoption of new processes and systems will be compromised, benefits will not be realized.	4	Change management and communications planning and activities are designed specifically to mitigating this risk.
Integrated service delivery culture and practices that are not adopted enterprise-wide compromise benefits	4	Adoption of new processes and systems will be compromised, benefits will not be realized.	4	Change management and communications planning and activities are designed to promote and encourage enterprise-wide cultural changes, establish motivation to change at all levels, and across all involved stakeholder groups, as a means of enabling adoption of new methods of operating.
Mechanisms required to facilitate increased integration of client services, especially data sharing agreements, and the related security and privacy capabilities required, is inadequately addressed	4	A lack of appropriate mechanisms, agreements and capabilities to facilitate appropriate data sharing within the constraints of privacy rules and security requirements risks significant public backlash, and could, in extreme circumstances, result	4	The roadmap includes significant efforts to assess privacy, security, and data sharing requirements, design and implement the appropriate data sharing agreements between stakeholders, and implement adequate security and privacy capabilities.



Risk Description	Probability of Occurrence (1-5)	Impact	Impact on Project (1-5)	Mitigation Strategies
		in sanctions against the State preventing the use of integrated systems for data sharing.		
Since the roadmap release strategy is to develop releases one program area at a time for the integrated human services delivery system, common standards and approaches to common functions, data integration and master data management may not be followed.	3	A lack of appropriate use of common functions, common data management and information management designs and standards may prevent the State from effectively sharing and leveraging data across programs, prevent re- use of common functions. and fail to achieve the intended benefits of the integrated system.	4	The roadmap includes efforts in the mobilization phase to support a deeper dive into Master Data Management and Information Management strategy, design and standards, and the inherent implications, responsibilities and accountabilities in each program area. The integrated architecture function is intended to ensure that project teams adhere to the design standards for common functionality, master data management, and data integration, and help individual project teams to develop their designs to contribute to the overall integrated design. As different program areas become involved, the integrated business, applications, and information architectures will need to be revisited and refined throughout the modernization effort.
Increasing policy and program complexity may lead to excessive system implementation	4	Lost opportunities to streamline operations and avoid excessive development and	4	Current policy has already been identified as being excessively complex. A policy and process optimization initiative is included in the roadmap, to put a focus on identifying and making policy



Risk Description	Probability of Occurrence (1-5)	Impact	Impact on Project (1-5)	Mitigation Strategies
costs		support costs. Reduced support from service delivery partners (especially counties) who see program complexity as a serious barrier to effective service delivery. Failure to reduce known complexity in policy is likely to increase cost and schedule.		and process changes to simplify and streamline processes where possible, and reduce overall complexity of DHS program delivery, and improve client service experiences. There is specific opportunity to streamline financial management processes for social services programs.
Depth of complexity in current financial management processes for social services programs may hinder opportunities for process simplification	4	Lost opportunities to streamline operations and avoid excessive development and support costs. Failure to reduce known complexity in policy is likely to increase cost and schedule.	4	A policy and process optimization initiative is included in the roadmap to provide opportunity to streamline and reduce complexity in current financial management processes where possible. Specifically, policy and process optimization initiative supports the elimination of redundant and inconsistent payment processes and instead manage all human service payments in a central and integrated manner. If this does not happen, scope and budget for functions like Financial



Risk Description	Probability of Occurrence (1-5)	Impact	Impact on Project (1-5)	Mitigation Strategies
				management will need to be increased.
Lack of availability of skilled resources and knowledge in the technologies required (principally Cúram)	5	Time and cost to implement may be higher than estimated, and quality of the solution may be compromised	5	Ensure adequate funding to acquire the required resource skills and expertise. Obtain external resource expertise and establish a formal knowledge transfer program. Establish a focus on knowledge transfer and adequate budget for training and coaching to develop sufficient in- house skills and capabilities to provide sustainable support for the solution.
Lack of availability of project resources with large transformation project experience	4	Additional time and/or money will be required for the project.	4	Ensure adequate research and funding to acquire the required resource skills and expertise as it relates to supporting large-scale transformation projects.
Lack of collaboration between State and Service Delivery Partners	3	A lack of adequate collaboration between the State and Service Delivery Partners may compromise the quality and desired benefits of the proposed solution.	3	Effective communications planning and activities are designed to promote and encourage input and collaboration in support of large-scale and enterprise-wide changes.
Lack of project resource	3	Schedule and quality of deliverables will be	4	Transformation Program and Project Management methods, standards, and governance processes



Risk Description	Probability of Occurrence (1-5)	Impact	Impact on Project (1-5)	Mitigation Strategies
availability		compromised.		are designed to mitigate this risk, mainly through project planning and resource acquisition and allocation processes (e.g. backfill of critical business resources).
Lack of adequate executive leadership and project resources commitment	3	Schedule and budget will be compromised, as well as involvement, commitment, adoption, and realization of benefits.	4	Transformation Program and Project Management methods, standards, and governance processes are designed to mitigate this risk, mainly through direct executive sponsorship of all initiatives and projects and formal planning to allocate project resources to project.
Lack of adequate business commitment to the vision of integrated human services delivery	3	Schedule and budget will be compromised, as well as involvement, commitment, adoption, and realization of benefits.	3	Transformation Program and Project Management methods, standards, and governance processes are designed to mitigate this risk including the formation of a single integrated Program Management Office to recognize and mitigate as appropriate the impact to the broader community and to assert the desired future.
Lack of project transparency	4	Schedule, cost, and quality will be compromised.	3	Transformation Program and Project Management methods, standards, and governance processes are designed to mitigate this risk, mainly through monitoring and effective project oversight (e.g. IV&V) to help ensure transparency throughout the project. It is necessary to cultivate a culture of



Risk Description	Probability of Occurrence (1-5)	Impact	Impact on Project (1-5)	Mitigation Strategies
				transparency, throughout the governance and leadership of the transformation program.
Scope creep (scope changes, business or environmental changes that cause changes to requirements and designs, leading to cost and/or schedule overrun	5	Additional time and/or money will be required, and dependent projects will be impacted.	4	Transformation Program and Project Management methods, standards, and governance processes are designed to mitigate this risk, mainly through standard planning, monitoring of scope, budget, and schedule, change management processes to change course as required to remain focused on intended outcomes, and issue management processes to address and resolve issues promptly.
Changes in political climate and commitment that negatively impact the project/budget	3	Changes to program direction, budget, resources, and leadership could impair progress toward a clear vision and goal	4	Establish a solid, rational, non-partisan business benefits based business case, and an ongoing communications strategy and plan that ensures that stakeholders, including political and administrative leaders, understand and support the vision and goals.
Lack of external stakeholder availability and involvement	2	Risk to reputation and service effectiveness and quality.	3	Transformation Program and Project Management methods, standards, and governance processes are designed to mitigate this risk, mainly through project planning, securing of stakeholder commitments, and ongoing communications with stakeholders.



Risk Description	Probability of Occurrence (1-5)	Impact	Impact on Project (1-5)	Mitigation Strategies
Loss or reduction of federal or State funding for project and roadmap implementation	3	The State may have to provide funds to cover portions of the project originally scheduled for federal funding. Given the time limited nature of federal funding, cost overruns may not become apparent until federal funding opportunities have lapsed, leaving the State accountable to address any funding shortfalls.	4	Project schedule contains periodic re-planning checkpoints as the design progresses, to identify changes in scope or understanding of resource requirements, to provide opportunities to obtain additional funding and/or adjust scope as required. This may include planning for transition architectures in case of loss of funding to make sure that the Agency does not operate in a less than optimal solution.



### 5.4 Risk Analysis Conclusions

Each alternative comes with a set of distinct risks.

In addition to the above risks, an integrated human services delivery system points out the need for controlled and monitored data sharing and data sharing agreements between internal and external partners.

DHS faces risks that are common to large-scale transformation and modernization efforts. Failing to address risks may reduce the chances that DHS sees the benefits associated with its planning effort. Worse yet, a failure to properly plan for and mitigate risks could put DHS at risk of operational, compliance, and financial shortcomings.

However, in the risk assessment presented above, KPMG believes that the mitigation strategies identified above, if properly implemented, will significantly reduce the overall risk of proceeding with alternatives 3 or 4.



## 6 Feasibility Conclusion

In addition to evaluating the risks of the alternatives as part of modernization, KPMG and DHS evaluated the Agency's probability and readiness of successfully completing the Enterprise Systems Modernization initiative. As such, we considered the technical, economic, legal, operational, and scheduling aspects and intricacies of the project that put DHS forward on its path to systems modernization and a 21<sup>st</sup> century user experience, consistent with DHS's business vision for integrated service delivery.

#### Technical

The technical environment with the procurement of Cúram Software as the Health Insurance Exchange (HIX) solution in Minnesota created a unique opportunity for DHS to retire select existing legacy systems with a comprehensive system that aligns with the future technology platform for integrated client service delivery at DHS. All of the technology solutions that are being implemented for the HIX, and are being proposed for Enterprise Systems Modernization, have been successfully implemented in similar human services organizations elsewhere, and as such, the technical feasibility is clear.

#### Economic

The economic landscape for modernization is in DHS's favor due to funding from the Minnesota legislature in 2011 specifically for modernization, and enhanced funding currently available for eligibility and enrollment systems modernization.

Request for additional funding has been supported so far in the Governor's budget, and a Planning APD was approved by CMS who is also anticipating the APD request for development/implementation funding. It is important to note that the Cost Benefit Analysis points out that there are considerable benefits that include improving service delivery, program outcomes, cost efficiencies, and operational risk reductions. In fact, the *Do Nothing* alternative is probably the least economically feasible path for DHS, meaning that modernization is not only economically feasible, but necessary in the long run.

#### Legal

The ESM initiative has a solid basis as State legislation mandated a roadmap for modernization. It is assumed that the request for funds for the work of modernization will also be supported by legislation.

#### Operational

From an operational aspect, modernizing with a COTS product will solve problems being encountered as DHS tries to maintain legacy systems and will standardize on a technology that is current, eliminating the myriad products currently in use by the Agency. Systems will be standardized on a hardware/software stack and staff will learn and maintain one set of application development tool skills instead of many.


### Scheduling

While many unknowns remain with such a large development effort, the planning lays out a replacement schedule that appears realistic and will allow for options that enable course corrections as required to optimize the overall investment. The announced decision in Minnesota to retire the mainframe is an additional driver. The opportunity to leverage HIX technologies and funding presents a unique opportunity for DHS and the plan reflects optimization of what the Exchange will bring.

DHS has furthermore put in place comprehensive instruments in support of the success of the EMS initiative and as a result of the Agency's experience with past projects.

- ✓ An IV&V vendor is already in place for the HIX and for the initial phase of the ESM effort. Use of a third party in this role is expected to help significantly with project oversight and transparency.
- ✓ DHS is currently working on an "on-boarding" process for staff newly assigned to the Medicaid modernization project already underway. This will help ensure that newly assigned staff becomes quickly productive as team members.
- ✓ Use of a COTS product will encourage an approach that always has a deployable product and reduces the tendency for the project to fall into analysis paralysis.
- An oversight group has been established for the HIX to help ensure that issues can be quickly escalated and decisions can be quickly made by the right people on an asneeded basis. Extending this to the ESM effort should help the project stay on track and ensure transparency.
- ✓ The current staffing for Medicaid Modernization draws on people from several different technical and business groups within DHS. DHS has learned to draw on the needed diversity of staff and to train them as appropriate for new roles. More training will be required for the ESM effort and DHS has committed to the education efforts that will be required.
- ✓ DHS has also committed to the MITA principles of modularity, extendibility and reusability and developed, as part of the roadmap, an extended business architecture to help stay focused on these principles.



# **Glossary of Acronyms**

CMS	Centers for Medicare and Medicaid Services (an agency of HHS)
COTS	Commercial Off-The-Shelf (Product)
DHS	Minnesota Department of Human Services
ESM	Enterprise Systems Modernization planning project
HHS	US Department of Health and Human Services
ніх	Health Insurance Exchange



# State of Minnesota Department of Human Services

Enterprise Systems Modernization Roadmap Report

FINAL

kpmg.com

# Purpose of this document

[Insert purpose of document]

# **Document History**

Version	Description	Date
1.0	First TOC and Outline	November 21, 2012
2.0	TOC updated	February 4, 2013
3.0	Adding Content	March 7, 2013
4-15	Updated content, removed cost references, updated diagrams and relevant appendix based on preliminary feedback from core team	April 3, 2013
16 - 20	Incorporated Final Updates	May 14, 2013

© 2012 KPMG LLP, a U.S. limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International, a Swiss cooperative. All rights reserved. Printed in the U.S.A.

KPMG and the KPMG logo are registered trademarks of KPMG International, a Swiss cooperative.



# Table of Contents

#### Table of Contents

#### Error! Bookmark not defined.

1 1.1 1.2 1.3	Executive Summary Report Overview Summary of Roadmap Implementation Considerations	3 3 3 5
2 2.7 2.2 2.4	Introduction Project Mandate Project Scope Purpose of this Report Approach to developing Roadmap Report	6 6 7 8
3 3.2 3.2 3.4 3.4 3.4 3.4 3.4 3.4 3.4 3.4 3.4 3.4	Implementation Strategy         Scope of improvements         Life Cycle         Resourcing Strategy         Procurement Strategy         Release Strategy         Cross - Program Function Implementation         Conversion Strategy         Communications and Change Management Strategy	12 12 13 14 15 15 17 18 18
4 4.2 4.2 4.2 4.2 4.2	Implementation Roadmap         Inputs and Estimating Assumptions         Implementation Roadmap         Cost Estimates         Resource Requirements         Alternative Costing Scenarios	19 19 23 26 27 29
<mark>5</mark> 5.7 5.2 5.2	Ongoing Operations Operational Support Strategy Cost Estimates (Annual) Resource Requirements (Annual)	30 30 30 31
6.2 6.2 6.4 6.4	Implementation ConsiderationsGovernanceEnterprise-wide ManagementIntegration (Enterprise Architecture)Communications and Change ManagementBenefits Realization	32 32 32 32 32 32 32 32
Ap Ap Ap Ap	opendices and Descriptions opendix A – Implementation Schedule Details opendix B – Initiatives, Projects and Work Package Descriptions opendix C – Resource Requirement Details opendix D – Estimating Assumptions – Resources and Rates	33 33 33 33 33 33

Appendix E- Application Component Function Point Estimates and Mapping to Releases Appendix F – Mapping of Programs to Releases Appendix G – Estimating Assumptions – Software Products Appendix H– Estimating Assumptions – Infrastructure Appendix I– Estimating Assumptions – Ongoing Operations Appendix J – Other Estimating Assumptions	33 33 33 34 34 34
Appendix A: Implementation Schedule Details	35
Appendix B: Initiatives, Projects, and Work Package Descriptions	35
Appendix C: Resource Requirement Details	64
Appendix D: Estimating Assumptions – Resources and Rates	64
Appendix E: Application Component Function Point Estimates and Mapping Releases	to 65
Appendix F: Mapping of Programs to Releases	65
Appendix G: Estimating Assumptions - Software Products	65
Appendix H: Estimating Assumptions - Infrastructure	65
Appendix I: Estimating Assumptions – Ongoing Operations	66
Appendix J: Other Estimating Assumptions Manual Data Cleanup Assumptions IT Team and Support Team Training Assumptions End User Training Assumptions End User Computer Based Training Assumptions Travel Assumptions Appendix K: Implementation Roadmap Graphic	67 69 70 71 75 79

#### Disclaimer

The purpose of this report is to document observations that came to our attention during our work and to offer our comments and recommendations for the State of Minnesota's consideration. Our procedures consisted of inquiry, observation, and analysis of provided information. Such work does not constitute an audit. Accordingly, we express no opinion on financial results, processes, other information or internal controls. The State of Minnesota is responsible for the decisions to implement any recommendations and for considering their impact. This report is meant solely for use by the State of Minnesota and may not be reproduced or shared with any third party without KPMG's consent except as may be allowed by the terms of our contract agreement.



# 1 Executive Summary

# 1.1 Report Overview

The Enterprise Systems Modernization Roadmap Report provides DHS with detailed key decision points and strategies as DHS pushes forward with enterprise systems modernization. Inherent strategies discussed as part of this report include the implementation strategy, resource requirements, and costing scenarios.

The report represents the culmination of KPMG's work assisting DHS in planning for the realization of its vision of an integrated human services delivery system as part of systems modernization.

# 1.2 Summary of Roadmap

### 1.2.1 Roadmap Development Process

KPMG worked with DHS to develop a transformation roadmap as part of the Agency's Enterprise Systems Modernization (ESM) to realize its vision of an integrated human services delivery system. We followed a comprehensive roadmap development methodology that is closely aligned with the enterprise architecture methods that KPMG has successfully leveraged in other states. The method enables us to identify and plan for business related work required to implement IT enabled transformational change, although the scope of this roadmap is on the delivery and implementation of systems modernization.

#### 1.2.2 Implementation Strategy

We have defined a preliminary implementation strategy which is intended to be realistic and comprehensive. A key principle is to ensure that we plan to succeed, and a critical implication is to ensure that we have included sufficient resources to deliver on the scope as it is expressed in the target operating model. We emphasize commitment of internal state business resources and IT resources, both to ensure quality from the State perspective, and to position for sustainability. We also plan to put the team into a single facility, and equip the team with a strong methodology, standards and tools, and the training and support necessary to ensure they are productive, and all of the component parts of the integrated solution fit together.

Key implementation strategies include the strategy for incremental releases of new functionality, as illustrated in the following exhibit. This strategy presumes that an initial release of Medicaid eligibility will be implemented and can be leveraged.



The resourcing strategy is to use the modernization program to renew the skills and capabilities of DHS IT staff through extensive training and knowledge transfer, to enable them to develop, support, maintain and enhance the solution once in place.

## 1.2.3 Planning Assumptions

We established an extensive set of planning assumptions in order to develop this estimate. These planning assumptions are documented throughout this report and in *Appendices E through J.* 

### 1.2.4 Implementation Roadmap

The implementation plan includes all of the work required to support enterprise systems modernization. The current plan shows that a 6 year timeframe will be required to complete all releases and functionality.

The new system is to be delivered in a series of releases illustrated in the following diagram.



Minnesota Department of Human Services Enterprise Systems Modernization Roadmap



#### 1.2.5 Implementation Estimates

The total cost of the initiative is estimated at \$xxx over 6 years. This includes internal and external resource costs, software license costs, hardware purchase and maintenance costs, training, and travel costs.

The cost estimates include work required to be done by program delivery partners (county and tribe representatives) to contribute to requirements definition, testing, training and knowledge transfer, communications and change management, interfaces within county systems to talk to the new integrated DHS system, and data conversion.

This results in an average of 40 internal business staff FTEs, 52 internal IT staff FTES, and 42 external FTEs over the 6 year period, although more of the work occurs in the first 4 years.

### **1.2.6 Operational Estimates**

Ongoing Operational costs to operate, support, maintain, and enhance the integrated solutions are expected to cost approximately \$xxx per year.

### **1.3 Implementation Considerations**

It is recommended that the enterprise systems modernization plan be managed as a program, with ongoing governance, enterprise-wide program management oversight over all initiatives, integration architecture to ensure the design and standards are appropriate and integrated, ongoing communications and change management to keep stakeholders informed and involved, and equipped to adopt the changes required for benefits to be realized. An independent validation and verification function is also recommended, to provide objective assessment of quality and progress as the program proceeds.



# 2 Introduction

# 2.1 Project Mandate

DHS has engaged KPMG to assist the Department in moving forward with its vision for an integrated human services delivery system and Enterprise Systems Modernization.

Specifically this initiative is intended to develop a strategic plan and roadmap for Enterprise Systems Modernization that supports DHS's vision for state-wide integrated human services delivery.

# 2.2 Project Scope

The project scope includes the development of the following key deliverables:

- Funding Approach
- Requirements Analysis
- Cost/Benefit Analysis
- Feasibility Study
- Alternatives Assessment
- Transformation Roadmap (this report)
- Request for Proposal Outline

As part of the Enterprise Systems Modernization project, all DHS programs are considered to be in scope for analysis.

The project is taking an integrated, functional view across all programs. The following Cross Program Functions are considered to be in scope:

- Assessment/Eligibility/Disability Determination
- Enrollment in Programs
- Case Management
- Payments to Providers on behalf of a client
- Fraud, Waste and Abuse
- Compliance
- Claims Tracking
- Performance Management and Business Intelligence
- Data Management
- Other Functions needed to support DHS Programs including Broad-based Triage, Screening and Referral services, EDMS, Electronic Forms and correspondence management, mobile capabilities and security and access management.



The project is intended to align and integrate with the following initiatives (but not duplicate their analysis and plans):

- Health Insurance Exchange the ESM project intends to leverage solutions, infrastructure, and business capabilities from HIX as appropriate, and identify integration requirements
- Health Care Programs Eligibility (to be handled by HIX and existing funding for modernization of those health care programs already supported by MAXIS and MMIS) – however the ESM project will identify integration requirements with Health Care Programs
- MMIS Modernization (Claims Processing/Payment) the ESM project will identify integration requirements with Claims Subsystem of MMIS

Therefore the following are defined as <u>out of scope</u> for the Enterprise Systems Modernization planning project:

- Health Insurance Exchange the ESM project will not replicate requirements and plans for the HIX, but will identify integration required
- Health Care Programs Phase 1 (initial functionality) the ESM project will not replicate requirements and plans for the first phase, but will identify integration required
- MMIS Modernization (Claims Processing) the ESM project will not replicate or include requirements and plans for the MMIS Modernization (separately funded effort), but will identify integration required and some functionality currently in MMIS will likely be moved, in part due to recommendations coming from this Modernization plan
- "Back Office" functions such as HR, Finance, Asset Management, and Procurement functions (other than to identify interfaces required to financial and HR business functions and systems)

# 2.3 Purpose of this Report

The Implementation Roadmap illustrates the major initiatives within the DHS Enterprise System Modernization (ESM) initiative, and the timing, on a quarterly basis. It represents a summary of the recommended modernization schedule. Note that the reference numbers shown are used only for ease of cross-referencing to the detailed schedule and estimates included in the following section and appendix.

The Roadmap illustrates the major releases, and the major initiatives included within each release. The initiatives are described in subsequent sections.



# 2.4 Approach to developing Roadmap Report

### 2.4.1 Introduction

KPMG applied a roadmap development process that is intended for planning of large scale enterprise-wide programs and portfolios of initiatives. The method is applicable to large scale IT enabled business transformations. For DHS, we focus the scope of this roadmap on Enterprise Systems Modernization that supports DHS's vision for state-wide integrated human services delivery.

### 2.4.2 Planning Principles

The following key principles are fundamental to the method:

#### $\Rightarrow$ Business driven

- Implementation roadmaps and cost estimating model includes all business resource requirements and business improvement / business transformation activities required to achieve business results – not just IT solution delivery
- Assumes & supports business investment governance decisions based on sound business case

#### $\Rightarrow$ Results oriented

Cost model includes benefits and business case definition, and benefits tracking and realization activities, to ensure focus remains on results

#### $\Rightarrow$ Architecturally based

- > Work effort estimates directly related to architectural components
- > Architectural roles and deliverables built into the work effort assumptions

#### $\Rightarrow$ Adequately resourced

- Includes all resource types and work packages required to implement business improvement (i.e. change management, communication, OD/HR work, process work, IT work)
- > Includes business resource work effort as well as IT resource work effort

#### ⇒ Adequate Project Management and Controls

- Includes business and IT project management and quality assurance roles and work packages
- > Assumes and supports appropriate gating and change control
- $\Rightarrow$  Risk Managed



Enables and supports sensitivity analysis and scenario evaluation, which can be used at the governance layer to mitigate risks, including course corrections and adjustment to new business imperatives - the project assumes this will be used on an ongoing basis throughout the project, as required.

### 2.4.3 Roadmap Development Process

The diagram below illustrates the roadmap planning process.



The key inputs shown on the left of the diagram have been documented in the Requirements and Logical Architecture Report and Target Operating Model and have been the starting point for the roadmap development process. They were used to conduct a gap analysis (mapping of current systems and the Health Insurance Exchange to the target architecture) to recommend a design option and inform the planning process – as documented in the Alternatives Analysis Report.

The Implementation strategy developed for this initiative is described in **Section 3** of this report. This section also defines the application system release strategy, along with a number of other key strategies that have guided the development of the roadmap.

General planning assumptions are documented in *Section 4.1*, and the appendix contains more details on estimating assumptions.



The specific Initiatives, Projects and Work Packages have been defined and are described in Appendix B. The diagram below illustrates the conceptual hierarchy of the work breakdown structure we have used in the cost model.



One of the main drivers of the cost estimate to build and/or configure application components is the estimate of application complexity, which is determined through the function point count. The function point count has been derived as follows:

- > Each Application Component is defined in terms of the business processes it supports
- > Each process is mapped to the high level entities in the Conceptual Data Model
- This is referred to as a "CRUD" Matrix (each cell indicates whether the process Creates, Reads, Updates, or Deletes instances of each Entity)
- The CRUD matrix is a key input to a function point count it is documented in the Blueprints Report, and the results of the function point count are shown in Appendix E
- The functional complexity of each process is calculated based on the CRUD, plus estimates of user I/O, interface I/O, program complexity and rules complexity



The functional complexity of an Application Component is the sum of the function point counts of its processes

The COSMIC-FFP method is the method used for function point counting (ISO/IEC standard 19761:2003).

Once we have an objective measure of complexity (the function point count), the work effort for the development life cycle can be determined, based on productivity assumptions – i.e. the number of work days per function point assumed to specify, design, build/configure, test and implement a given component.

COCOMO II (Common Cost Model) is an industry source we have referenced for productivity assumptions.

The productivity estimates vary based on the functional coverage of potential solutions as determined in the gap analysis and adjusted based on the team's collective experience.

#### 2.4.4 Consultation

Estimates have been and will be further reviewed with key DHS leadership and staff and validated for reasonability through comparison with other state modernization estimates.



# **3 Implementation Strategy**

The implementation strategy describes the key guiding principles on which the Roadmap is based, the strategies we plan to employ, the approaches taken, and options considered for enterprise systems modernization and a state-wide integrated human services delivery system.

The Implementation Strategy is based in general on business driven principles as noted in section 2. The roadmap supports the business vision documented at the start of the planning project, which delivers benefits to end clients, the organizations responsible for service delivery (counties and tribes), and to the DHS organization, to enable greater program effectiveness and service delivery efficiencies. The benefits are documented in the Cost Benefit Analysis deliverable.

DHS's integrated business improvement vision needs to be achieved through alignment of people, process (i.e., policies and practices) and technology. These need to be integrated and

choreographed through a unifying design discipline. Accordingly, we recommend that the modernization plan be managed as a program, to ensure appropriate focus, direction and coordination is provided to achieve the intended outcomes. The program should be supported by DHS's architectural governance, where the business architecture is the unifying design discipline to ensure alignment occurs between the business and technology solutions. IT Architecture (information, applications, and technology) is the unifying design discipline to ensure IT solutions are aligned, integrated, and life cycle cost optimized.



# Organization

Another key driver of the plan is the State's technology direction. The Modernization Plan is intended to migrate DHS systems off of mainframe technology as soon as it is feasible to do so. At this point, we estimate decommissioning of all mainframe based systems by 2017.

# 3.1 Scope of improvements

The Enterprise Systems Modernization Roadmap is primarily focused on the systems and technology to be implemented; however, we are incorporating initiatives needed to enable business improvements also. The technology implementation cannot be successful without identification of the business changes that will be enabled. Without these changes, the intended outcomes will not be achieved.

The main focus is on:

• New information, systems, technology required to support the improvements.



• New processes and procedures required to use the new I&IT solutions.

We have identified additional initiatives in specific areas, where the new systems depend on business changes to achieve results. This specifically includes:

- **New legislation, regulation, policy -** particularly in the area of financial management policy and processes, as well as other areas where policies and processes can be simplified to reduce complexity both for DHS clients, and for the service delivery function.
- *New program and service delivery strategies* such as the increased client self service strategy identified in the business vision.
- New business processes, practices, behaviours integrated, client focused service delivery, case management, information management, and performance management are significant business functions which will are being redesigned from a functional rather than program perspective, which can be expected to impact business processes, practices, and behaviours.
- New governance, roles, skills, and possibly Job re-design and organization re-design – will be needed within the IT Support organization. The contact center, help desks for staff, and the business intelligence support area, are certainly going to be impacted through the roadmap. The new modernized technology is also designed to enable greater flexibility in organizing work to meet the demands of local service delivery requirements.

# 3.2 Life Cycle

The scope of the roadmap and estimate is intended to include the full life cycle of delivering and implementing the changes required to achieve the business vision, as depicted in the following exhibit. We have included preliminary estimates for the full life cycle, including annual



# Roadmap and estimating model are based on a high level Transformation Life Cycle



operational cost impacts of supporting, operating and enhancing the technology.

The most significant implications of the Life Cycle are:

- At the planning stage, the architecture, requirements, design and therefore the implementation plan is relatively high level there are many unknowns, accounted for by assumptions that may or may not prove to be accurate
- As the work proceeds through the life cycle, more detailed design decisions are made, and assumptions become certainties
- Checkpoints at each stage of each component implementation ("releases") are needed to ensure that:
  - the design remains coherent, integrated, and aligned with the intended outcomes (architecture checkpoints) and
  - the plan and business case remain viable (portfolio checkpoints)
- Updates to target architectures, overall program plans and budgets at each checkpoint
- Periodic review of the program portfolio, adjusting priorities, budgets and timing as required to adapt to changing business demands and changing plans

# 3.3 Resourcing Strategy

The resourcing strategy addresses both IT resources and business resources required to make the initiative successful. The need for dedicated IT skills and resources is clear. Dedication of time on the part of business representatives is also critical to success.

We assume that dedicated business resources will need to support project management, detailed business requirements definition, testing, data conversion and loading, communication, change management, training, business policy and process design, benefits identification and realization, and organizational change. The business representatives should be internal, knowledgeable resources who understand and can elaborate on the vision. These individuals are typically key people in the operation, and in order to dedicate these resources as required to the program, it will be necessary to backfill key business representatives in their operational roles, potentially through temporary staff or contract positions.

Business representation needs to include representatives from both program management and program delivery, meaning that not only DHS representatives, but county and tribe representatives need to be involved in the project to maximize the probability of success.

The strategy for IT resources is to leverage internal resources to the greatest possible extent. This will involve significant training in the new technologies planned, and will enable DHS to leverage knowledge of existing systems to reduce the possibility that essential functionality is lost in the upgrade to new systems. This will also position DHS to be having the knowledge required to effectively support and operate the technology.

Given the significant demands of the implementation plan, and the new technologies being implemented, it is recommended that supplemental technical expertise be acquired to reduce



overall risk, and also to supplement the internal IT resources. Accordingly, for planning purposes, we are assuming that approximately half of the IT resources will be external.

# 3.4 Procurement Strategy

The alternatives that appear to be viable, based on the Alternatives Analysis report, are both based on leveraging the technologies acquired for the Health Insurance Exchange. Additional hardware, software, services, and resources will be required. However, the procurement strategy assumes that the procurements will be simple and straightforward.

Additional software acquisition is assumed to represent largely the acquisition of additional licenses and additional components from existing software products, so direct award may be possible.

Additional hardware will be procured based on the hardware standards already in place for the HIX, and again can be acquired through direct award or straightforward competitive acquisition.

The strategy for acquiring resources is assumed to be based on simple competitive acquisition of rate-based consulting resources for roles, on a time and materials basis. It is recommended that skills and qualifications be given precedence over pricing, given the requirement for knowledgeable resources, knowledge transfer, and the relative scarcity.

An alternate resourcing strategy would be to acquire fixed-price deliverables-based services. This may be a way to reduce or offload risk from DHS to external service providers. A work package is included in the roadmap to conduct a more thorough review of procurement options to finalize the procurement strategy.

# 3.5 Release Strategy

The release strategy is intended to optimize the following considerations:

- 1 Optimize federal funding opportunities, by timing the work to obtain federal funding before these opportunities expire
- 2 Reducing delivery risk by implementing the integrated solution through a series of incremental releases
- 3 Minimize operational impacts, by ensuring that comprehensive testing and training precedes implementation of core functionality, and existing systems remain available until required functionality is at a minimum replaced, and ultimate improved
- 4 Replace mainframe based current systems functionality first, to enable the state to decommission mainframe technology as early as possible – this also includes replacement of obsolete technologies specifically mainframe based ADABAS and NATURAL, to minimize risks and costs of ongoing reliance on obsolete technologies
- 5 Implement the highest value, highest impact functionality as early as possible



As a result, the integrated DHS system is intended to be phased in on a program-area by program-area basis, to be able to decommission (or significantly reduce reliance on) aging current systems following the above guidelines.

For this high level roadmap, we have made preliminary assumptions for the implementation strategy. Appendix E describes the detailed application components to be included in each release. The following graphic illustrates the release strategy:

Integrated Eligibility	<ul> <li>Release 2 – Supplemental Medicaid</li> <li>Release 3 – SNAP and Cash</li> <li>Release 4 – Child Care (MAXIS replaced)</li> <li>Release 5 – Additional Functionality</li> </ul>
Long Term Services and Support	<ul> <li>Release 1 – Basic</li> <li>Release 2 – Additional Functionality</li> </ul>
Child Support	Release 1 – Basic (PRISM replaced)     Release 2 – Additional Functionality
Child Welfare	• Release 1 – Basic (SSIS replaced)     • Release 2 – Additional Functionality
Other Smaller DHS Programs	• Single Release
Business Intelligence	<ul> <li>Upgrade Infrastructure</li> <li>Support each operational release above with new BI/DW functionality</li> <li>Subject to results of BI Strategy</li> </ul>

Key points about the release strategy:

- 1 Integrated Eligibility Release 1 (Health Care Eligibility) is underway now and is assumed to be implemented for modernization
- 2 Integrated Eligibility Releases 2, 3, and 4 these releases collectively replace the current MAXIS system, and in order to keep the scope manageable, these releases will include minimal functionality over and above the basic functions supported by MAXIS - to enable MAXIS to be decommissioned quickly
- 3 Integrated Eligibility Release 5 this release will implement extended functionality for integrated eligibility programs
- 4 Long Term Services and Support– this release is intended to provide functionality for these programs replacing MN Choices
- 5 Child Support Release 1 this release is intended to replace the current PRISM functionality so it can be decommissioned
- 6 Child Support Release 2 provides the full functionality for Child Support programs
- 7 Child Welfare Release 1 provides sufficient functionality to replace and decommission SSIS



- 8 Child Welfare Release 2 provides extended functionality for Child Welfare
- 9 Other DHS Program Support this release will incorporate functionality for other, smaller DHS programs into the integrated system.

Note that, as the detailed design proceeds, each of the above releases will be scoped in greater detail, and it is possible that it will be divided into smaller sub-releases.

Please refer to Appendix F for more details around Program mappings to associated releases.

In parallel with the above releases, a parallel set of releases of the Business Intelligence/Data Warehouse environment is planned, to provide the reporting functionality needed to support the operation for each of the program areas. This strategy will be confirmed and elaborated as part of the Business Intelligence Strategy work that is being initiated.

# 3.6 Cross - Program Function Implementation

As outlined in the release strategy, roadmap and project plan, the DHS Enterprise Systems Modernization spans over multiple years. The release strategy is organized by program area, in order to be able to migrate from and decommission the legacy systems supporting each program area in favor of the integrated system, one at a time. It is important to note that functionality that is common across programs (i.e., intake, screening, case management, eligibility determination etc) will be therefore be deployed incrementally, on a program area by program area basis.

For example, the Medicaid Improvement release of Integrated Eligibility will deliver a baseline set of common functions, which are further built on by subsequent releases that are being delivered later in the roadmap. After the Medicaid Improvements release is implemented, the "common" functions have only been configured to support Medicaid eligibility. When the second release (SNAP and Cash programs) is implemented, it will build SNAP and Cash program rules and processes into the common functional business application components, and the components will then perform such functions as intake, screening, eligibility assessment, etc. for Medicaid, SNAP and Cash programs as an integrated process. Ultimately, as releases take place, the common functionality is built incrementally to gradually incorporate all DHS programs into an integrated set of processes (for the functions that are applicable to each program). The following diagram illustrates this conceptually. Details on each release can be found in the release strategy as included in this report, and in Appendix E.





# Common Cross – Program Functions Incremental Implementation

# 3.7 Conversion Strategy

Data from existing systems will be converted and loaded from existing systems prior to decommissioning those systems. The conversion will be automated as much as possible, to preserve data quality and improve it where it may be necessary. Data conversion and loading often required manual effort to ensure data quality, and to supplement the data from existing systems with additional information that may be needed for the new system to function.

It is assumed that the data quality of existing systems is relatively good, making the manual aspects of data conversion and loading manageable and happening at the counties.

#### 3.8 Communications and Change Management Strategy

Ongoing communications and change management are critical to the success of such a large transformational program. Dedicated program management resources are planned to provide ongoing communications and change management planning and support.

The strategy will identify audiences including staff and management of DHS, program delivery organizations (counties, tribes), 3<sup>rd</sup> party contract service providers, state and federal government, and consumers.

These strategies need to gather input, let the key stakeholder audiences know what is coming and how it will impact them, and it will be important to demonstrate and communicate progress.

Training is a key element of the change management strategy. Training needs to address not only technical skills, but process, standards, and policy. The training needs to address change



management, attitudes, motivation, and behaviors, particularly as it relates to functions such as customer service, information management, privacy, security, and performance management.

Given the broad scope of impact to staff and consumers, training of core support staff will be done through classroom and/or virtual classroom training. To reach all staff, and especially consumers, a combination of self-study tutorial style help facilities will be required, combined with access to real time support through a contact center.

# 4 Implementation Roadmap

# 4.1 Inputs and Estimating Assumptions

This section describes our key planning and cost estimating assumptions. Details can be found in the appendices as noted below. Cost estimates are architecturally based, as described in section 2.4.3. This approach to estimating enables a high probability that major cost and effort items are identified – in other words, the estimate can be considered comprehensive. However, it is based on a relatively high-level strategic architecture, and on a number of assumptions regarding implementation strategy; such assumptions will be evaluated and validated or adjusted as the project proceeds. Key decision checkpoints are identified in the high level plan. For example, at the procurement stage, the decision on specific technologies and solutions is made; before that point, we have made assumptions about representative products for estimating purposes only.

Estimates have been developed using proven large scale estimating methods (based on Fermi methods), which have the following characteristics:

- Many incremental estimates and assumptions result in more reasonable estimates
- Over- and under-estimates tend to cancel each other out using this approach (Fermi method)
- Accuracy is expected to be +75/-50% at initial planning stage

Estimates have been developed using a comprehensive estimating model informed by:

- Functional requirements function point counts (measure of functional complexity) aligned with target architecture
- Comparisons to similar projects
- Representative product costs from general market knowledge (not based on quoted vendor pricing)
- Minnesota internal resource costing, external rates for some roles, general market rates for other roles (see Appendix D)

The following exhibit illustrates the comprehensive types of estimates typically included.





Note that there are several types of enabling work packages that are typically included, such as Training, Rollout, Implementation Planning, Procurement, Organizational Design, Process Design, Policy Development, etc. The specific work packages in the plan are described in Appendix B.

# 4.1.1 Resource Planning and Costing Assumptions

We have assumed a significant amount of internal state resources are required for representation of both business and IT requirements as noted above. There is also a substantial number of consulting resources required, including both systems integrator resources and other consultants required for project management, quality assurance, architecture, requirements specification, procurement assistance, and a number of related requirements.

Appendix C provides details of the total work effort estimates for both internal and external resources.



Appendix D provides details of the types of roles and costing assumptions for both internal and external resources.

# 4.1.2 Travel Costing Assumptions

We assume that the resources for the Modernization program will be based in Minneapolis/St. Paul. Travel costs have been included, to cover the cost of team travel to service delivery locations across Minnesota. The intent is to keep travel time and costs to a minimum, by taking advantage of video and audio conferencing facilities as much as possible.

Travel assumptions are detailed in Appendix J.

# 4.1.3 Team Facilities Assumptions

It is recommended that the project team is located together, for the duration of the project. Facilities need to include sufficient workspace and meeting space for the core project team. We have assumed that facilities will be made available using standard DHS facility planning assumptions. Facility cost assumptions are not included in this estimate. It is assumed that DHS will make facilities available for the team.

# 4.1.4 Team Technical Environment Assumptions

We have included cost assumptions for the project development environment (which will take advantage of the Collaborative Application Lifecycle Management Environment defined in the **CMS Collaborative Environment and Life Cycle Governance – Exchange Reference Architecture**.

Our assumptions include costs for the team to be equipped with tools required to maintain the program design and development repository, to publish documentation using existing SharePoint capabilities. For the team's technical environment, we assume that the following environments will be required: Development, System Test (Integration), Acceptance Test, Training, Production. Detailed assumptions are included in Appendix H.

# 4.1.5 Infrastructure Demand Assumptions

Based on numbers provided by DHS, we have estimated that the solution will need to support approximately:

1,000,000 clients (consumers) – based on estimated number of clients provided in program profiles by DHS

- Up to 50 percent of adult consumers are expected to use electronic self-serve access methods over the first 6 years of operation (note that this is a preliminary estimate, as little evidence has been found to support a more reliable estimate)
- 12,000 DHS and program delivery (county and tribe) users
- 60,000,000 total transactions per month (user transactions for MAXIS/SSIS and system transactions for PRISM), based on general information provided by DHS, and extrapolated on the assumption that there will be increased functionality and



therefore an increase in transaction volumes. Up to 10% of these transactions are expected to be self-service transactions by year 6 (see previous note on self-service transaction estimates).

These numbers are based on a review of existing clients, users, and transaction volumes in the major DHS systems – MAXIS, PRISM, and SSIS.

Infrastructure needs to be sufficiently robust and scalable to support peak demands:

- Up to 50,000 concurrent users (including consumers). This does not include HIX users.
- 6,000,000 peak daily transaction volumes (up to 3 times the daily average tx's)

These numbers are based on a review of existing clients, users, and transaction volumes in the major DHS systems – MAXIS, PRISM, and SSIS.

The service level requirement for this infrastructure is expected to be high availability, supporting essentially 7-24-365 client access and a contact center.

Appendix E describes the availability requirements of application components. Some but not all components need to be available 7-24-365.

Appendix H describes the assumptions on infrastructure required to support this level of demand.

Appendix I describes the operational costs to support the infrastructure.

#### 4.1.6 **Conversion Assumptions**

We assume at a minimum that all active cases will need to be converted, and ideally all history that needs to be retained will be converted from legacy systems. For planning purposes, we have estimated automated conversion programs to import case data from legacy systems to include the approximate numbers of clients shown in Appendix J. Once converted, these client cases will be closed in the legacy systems. This will happen just prior to rollout of each release.

As a fully automated conversion may not be possible due to lack of data and/or data structure inconsistencies and/or data quality issues, we assume that 5% of the cases will require manual intervention to complete the conversion. We assume 1 hour per case will be spent manually correcting each of these cases. The resulting work effort is shown by release in Appendix J.

#### 4.1.7 IT Team and Support Training Assumptions

As noted above and in the Feasibility Study report, training and knowledge transfer are critical to the success of the program. Training and knowledge transfer will need to be provided to the core teams at the beginning of the program and as new team members come on board. This includes extensive training in new technology products (10 days per team member at a training



cost of \$xxx per day per FTE), as well as 5 days of internally delivered orientation and training on program methods and standards.

Detailed training assumptions can be found in Appendix J.

## 4.1.8 Business Staff Training Assumptions

Training of business end users is also critical to successful implementation. A substantial rollout is planned for each release. The initial release will have the largest amount of change management and training support, and subsequent releases will have additional training required, depending on whether each release will be introduced to new users, or users already familiar with the system. A "train the trainer" and mentoring approach needs to be taken, particularly for Curam product related training, so approximately 10% of end users are expected to attend vendor training, and provide knowledge transfer to other end users. Supplemental customized training is planned for each release, to describe state policies and procedures for implementing the new systems.

End users will also have access to computer based tutorials.

Appendix J contains the detailed estimating assumptions for training.

#### 4.1.9 Public Self-Service Support Assumptions

Extensive online tutorial and help documentation will be provided to facilitate public self service, as well as 7-24 access to the contact center.

Appendix J contains assumptions for computer based training estimates.

It is assumed that the State will use its Oracle e-Learning product for developing computer based training.

#### 4.2 Implementation Roadmap

The Implementation Roadmap illustrates the major initiatives in DHS's enterprise system modernization, and the expected timing, on a quarterly basis. This is a summary of the recommended implementation schedule.

The Roadmap illustrates the major sub-programs, initiatives (major releases and other supporting initiatives) within in sub-program, and projects included within each release.

The roadmap realizes the release strategy described in section 3. It is proposed as a 6 year plan, to accommodate the large number of releases planned.

The roadmap schedule is illustrated below.



	2014 2015		2016			2017				2018				2019										
	<b>a</b> 1	32	33	Q4	31	<b>3</b> 2	33	Q4	<b>a</b> 1	32	33	Q4	<b>a</b> 1	<b>a</b> 2	33	Q4	<b>a</b> 1	<b>a</b> 2	33	Q4	<b>a</b> 1	32	33	Q4
NAME	14(	14(	14(	14(	15(	15(	15(	15(	16(	16(	16(	16(	17(	17(	17(	17(	18(	18(	18(	18(	19(	19(	19(	19(
Minnesota DHS Enterprise Systems Modernization Delivery	2	~	7	~	7	~	ł	~	~	2	ł	~	~	~	ł	~	~	~	ł	2	~	ł	ł	~
Minnesota DHS Enterprise System Modernization Program Mgmt and Support																								
DHS Enterprise System Modernization Mobilization																								
DHS Modernization Procurement																								
DHS Modernization Technology Infrastructure Acquisition and Deployment																								
DHS Modernization Software Package Acquisition and Deployment																								
DHS Modernization Enterprise-wide Management																								
Integrated Eligibility Modernization																								
Integrated Eligibility Modernization Delivery Release 2 - Medicaid Improvements																								
Integrated Eligibility Modernization Delivery Release 3 - SNAP & Cash																								
Integrated Eligibility Modernization Delivery Release 4 - Child Care																								
Integrated Eligibility Modernization Delivery Release 5 - IES Improvements																								
Long-term Services & Support Programs Modernization																								
Long-term Services & Support Service Delivery - Basic																								
Long-term Services & Support Service Delivery - Enhanced																								
Child Support Modernization																								
Child Support Delivery Release 1 - Basic																								
Child Support Delivery Release 2 - Enhanced																								



	2014		2015			2016			2017			2018			2019									
NAME	14Q1	14Q2	14Q3	14Q4	15Q1	15Q2	15Q3	15Q4	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4
Minnesota DHS Enterprise Systems Modernization Delivery	2	~	~	~	~	~	1	~	~	~	~	~	~ ~	1	1	1	1	~	1	7	1	1	1	~
Child Welfare Modernization																								
Child Welfare Delivery Release 1 - Basic																								
Child Welfare Delivery Release 2 - Enhanced																								
Modernization of Other Smaller DHS Programs																								
Other DHS Programs Delivery																								
Business Intelligence Modernization																								
Business Intelligence Delivery - Capability Upgrade																								
Business Intelligence Delivery - IES																								
Business Intelligence Delivery - LTSS																								
Business Intelligence Delivery - Child Support																								
Business Intelligence Delivery - Child Welfare																								
Business Intelligence Delivery - Other Programs																								
Policy and Process Simplification																								
Financial Mgmt Policy and Process Simplification																								
Other Policy and Process Simplification - Placeholder																								



		20	14			20	15		2016			2017				2018			2019					
NAME	14Q1	14Q2	14Q3	14Q4	15Q1	15Q2	15Q3	15Q4	16Q1	16Q2	16Q3	16Q4	17Q1	17Q2	17Q3	17Q4	18Q1	18Q2	18Q3	18Q4	19Q1	19Q2	19Q3	19Q4
Minnesota DHS Enterprise Systems Modernization Delivery	1	1	2	~	~	1	~	~	2	1	ł	2	1	2	1	1	ł	1	1	1	1	ł	ł	~
Information Governance & Protection Improvement																								
Information Governance & Standards Improvement																								
Information Protection and Sharing Standards Improvement																								
IT Function Modernization																								
IT Function Modernization																								
Contact Center Modernization																								
Contact Center Delivery																								
Minnesota DHS Enterprise Systems Modernization Operations	~	7	1	~	~	1	~	~	~	1	~	~	1	~	2	1	2	1	2	7	1	1	~	~
Minnesota DHS Enterprise System - Ongoing Operations																								
System Modernization Ongoing Operations - Infrastructure & Technical Components																								
System Modernization Ongoing Operations and Support - Business Systems																								
Current Ongoing Operations																								

More details of the work breakdown structure and schedule for each of the above sub-programs and initiatives are shown in Appendix A. Appendix B includes descriptions of each initiative, project, and work package.

## 4.3 Cost Estimates

This section summarizes our estimates of the major costs of the integrated human services delivery solution based on the proposed alternative 3 as described in the Alternatives Analysis. The next section enumerates the investment of financial and human resources required to realize systems modernization.



We have developed preliminary, high level cost estimates, based on the assumptions described in preceding sections, and in the detailed estimating assumptions in the appendix. The assumptions should be considered preliminary given the fact that the design of the integrated human services delivery system is still at a high level, and many detailed design decisions remain to be made.

# 4.4 Resource Requirements

Cost estimates for all resources have been based on work effort estimates for each initiative, project, and work package in the plan. The following table summarizes the work days of effort required over the planned life of the ESM initiative.

Initiative Name	Total External Resource Days	Total Internal Resource Days	Internal Business Resource Days	Internal IT Resource Days	TOTAL IMPLEMENT- ATION Work Days
Minnesota DHS Enterprise Systems Modernization Delivery	55,982	114,960	67,552	47,408	170,941
Minnesota DHS Enterprise System Modernization Program Mgmt and Support	9,121	13,241	8,157	5,084	22,362
Integrated Eligibility Modernization	17,917	47,737	31,599	16,139	65,654
Long-term Services & Support Programs Modernization	4,978	11,335	6,875	4,460	16,314
Child Support Modernization	4,854	14,039	9,641	4,398	18,893
Child Welfare Modernization	6,151	9,315	3,687	5,629	15,466
Modernization of Other Smaller DHS Programs	4,898	7,694	3,061	4,634	12,592
Business Intelligence Modernization	6,599	8,898	2,683	6,215	15,497
Policy and Process Simplification	336	1,190	994	196	1,525
Information Governance & Protection Improvement	590	842	556	287	1,432
IT Function Modernization	417	517	186	332	934
Contact Center Modernization	122	152	116	36	273

This results in an average of 38 internal business staff FTEs, 46 internal IT staff FTES, and 30 external FTEs over the 6 year period. *This is expected to include a mix of resources dedicated to the project on a full time basis, and part time expertise to be involved only* 



when needed. This means that a significant number of individuals will be involved over the life of the program. Internal resources include both IT and business representatives. The following table provides details.

	External	Internal	Internal
Year	All	Business	IT
2014	28	18	22
2015	81	106	80
2016	54	125	63
2017	45	32	59
2018	47	35	63
2019	23	22	44
2020	6	11	34
2021	6	11	34
2022	6	11	34
2023	6	11	34

Appendix C contains details of project resource requirements.



# 4.5 Alternative Costing Scenarios

The following costing scenarios may be helpful in making detailed planning and design decisions:

- Comparison of Alternative 3 (HIX based solution) versus Alternative 4 (Hybrid approach that leverages current systems
  - o Only 3 application components differ between these alternatives
  - o Less customization of Curam would be required for financial functions
  - o Additional interfaces would be required
  - MAXIS and PRISM financial functions would need to be migrated to newer LINUX based versions of ADABAS and NATURAL
  - o Refer to the Alternatives Analysis Report for details
- Internally managed approach versus outsourcing of solution delivery to systems integrator
  - Higher percentage of external IT resources
  - Lower rates but more risk assumed by state, versus higher costs, but greater cost certainty (note that in reality, risk cannot be entirely offloaded)



# 5 Ongoing Operations

# 5.1 Operational Support Strategy

DHS intends to develop substantial in house capability to support, operate, maintain and enhance the integrated systems going forward.

# 5.1.1 Operational Support Planning Assumptions

Work Packages have been included in the implementation plan to develop a strategy for operations and support. We have assumed that operations and support will be in-sourced, and our operational support cost estimates are therefore based on internal rate and cost assumptions, documented in Appendix D.

We have not incorporated inflation, or growth in demand over time. However, we can expect that there would be growth in terms of clients, users, transactions, and therefore growth infrastructure and support resources to accommodate growth.

# 5.2 Cost Estimates (Annual)

The table below shows the expected annual ongoing operational cost associated with components delivered from each initiative. It includes internal and external resources, as well as annual software maintenance, and infrastructure warranty and replacement costs.

Generally speaking, the annual operating cost will begin to be incurred the year following the last year of implementation for the initiative.



# 5.3 Resource Requirements (Annual)

The table below shows the expected annual ongoing operational resources work effort in days) required supporting the production systems going forward.

Initiative Name	Total External Resource Days	Total Internal Resource Days	Internal Business Resource Days	Internal IT Resource Days	TOTAL IMPLEMENT- ATION Work Days
Minnesota DHS Enterprise Systems Modernization Operations	3,536	361,126	2,323	358,803	364,661
Minnesota DHS Enterprise System - Ongoing Operations	3,536	361,126	2,323	358,803	364,661
System Modernization Ongoing Operations - Infrastructure & Technical Components	272	1,175	-	1,175	1,447
Infrastructure & Hosting Operations	86	345	-	345	431
Business Applications' Licenses	-	-	-	-	-
Technical Components Operations and Support	186	830	-	830	1,016
System Modernization Ongoing Operations and Support - Business Systems	3,264	15,592	2,323	13,269	18,856
Applications Support & Maintenance	1,031	4,640	516	4,124	5,671
Application Enhancements	1,808	9,042	1,807	7,235	10,850
Application Integration Support and Enhancements	424	1,910	-	1,910	2,334

Appendix I provides details of the operating cost and resource requirement assumptions.



# 6 Implementation Considerations

# 6.1 Governance

Effective governance of large IT enabled transformation investments is challenging and critical to ensure that oversight and controls are in place to ensure that the program remains focused on obtaining the required results, and deals effectively with changes, both external and as a result of detailed design and implementation.

Governance will be particularly challenging because of the significant stakeholder groups who need support from the system. In addition to the DHS users, operational program delivery groups will have diverse needs. The integrated solution also supports the HIX eligibility system, and coordination of priorities within a single system will have to take this into account also.

# 6.2 Enterprise-wide Management

The ongoing program management function built into the roadmap is necessary to ensure coordination across work streams, as well as providing standard approaches to planning, project management, resource allocation, progress tracking and reporting, and risk and issue management.

The program management function is responsible for supporting the governance groups, particularly by ensuring that the "rolling wave" of integrated project plans is maintained, and scope, budget, and schedule variances are identified early and brought to the attention of teams and the governance group as required to minimize cost impacts.

# 6.3 Integration (Enterprise Architecture)

The Integration Architecture function included within enterprise-wide management of the program is key to ensure that the integrated design remains aligned across projects, releases, and teams. It must also align with changing business needs.

# 6.4 Communications and Change Management

A consistent approach to communications and change management was described previously as a key requirement. This function is also included in the enterprise-wide management of the program.

# 6.5 Benefits Realization

Activities to develop, maintain, and measure the achievement of benefits have been incorporated into the program management function. This enables DHS to confirm and communicate the benefits achieved and to learn where additional work may be required to achieve the intended results.


# **Appendices and Descriptions**

#### Appendix A – Implementation Schedule Details

This appendix contains the implementation plan and schedule details pertaining to the implementation of Minnesota Department of Human Services Enterprise Systems modernization. This schedule lists the various initiatives, projects and work packages along with associated timing, and duration.

#### Appendix B – Initiatives, Projects and Work Package Descriptions

This appendix contains descriptions of implementation initiatives, projects and work packages.

#### Appendix C – Resource Requirement Details

This appendix contains the resource requirements in terms of total work days for Internal and External IT and business resources. Furthermore, it is illustrated by quarter the implementation time span.

#### Appendix D – Estimating Assumptions – Resources and Rates

This appendix contains the estimating assumptions around internal and external resources based on established and DHS standard rates. It also identifies the type of resource and resource role.

#### Appendix E- Application Component Function Point Estimates and Mapping to Releases

This appendix contains the mapping between application components and function point estimates (as estimated as part of the logical architecture). Implementation releases are determined by this mapping and are also illustrated in this appendix.

#### Appendix F – Mapping of Programs to Releases

This appendix contains the mapping of programs to the release that will address the specific program during implementation.

#### Appendix G – Estimating Assumptions – Software Products

This appendix contains the assumptions identified while estimating cost associated to software products (i.e., application components). This includes assumptions around delivery lifecycle, work effort (internal, external, IT and Bus), productivity, service levels, and cost. Appendix G is comprised of two appendices – G1 and G2 – relating to estimating assumptions of software products and technical software.



#### Appendix H– Estimating Assumptions – Infrastructure

This appendix contains the assumptions identified while estimating cost associated to infrastructure. This includes assumptions around delivery lifecycle, work effort (internal, external, IT and Bus), productivity, service levels, and cost.

#### Appendix I– Estimating Assumptions – Ongoing Operations

This appendix contains the assumptions identified while estimating cost associated with ongoing operations.

#### Appendix J – Other Estimating Assumptions

This appendix contains assumptions related to manual data cleanup, IT team and support training, end user training and travel.

#### Appendix K – Implementation Roadmap Graphic

This appendix includes a graphical representation of the implementation plan and work required to support enterprise systems modernization over 6-year timeframe.



# **Appendix A: Implementation Schedule Details**

See separate Appendix A documentation.

### Appendix B: Initiatives, Projects, and Work Package Descriptions

#### Sub Program Definitions:

Sub-Program	Sub-Program Name	Sub-Program Description
DP01	Minnesota DHS Enterprise System Modernization Program Mgmt and Support	This will sub program will cover the program management, project management, and implementation support for the entire DHS Enterprise System Modernization Initiative. This will also include initiation, mobilization, procurement, technology infrastructure and software acquisition and deployment along with enterprise wide modernization management.
DP02	Integrated Eligibility Modernization	This sub program will cover the modernization of the Integrate Eligibility systems and consists of 5 releases (Please note: Release 1 will be addressed by HIX). Release 2 will take care of Medicaid improvements. Release 3 will take care of SNAP and Cash modernization. Release 4 will take care of Child Care modernization following which MAXIS will be decommissioned/replaced. Release 5 will take care of any additional required functionality.



Sub-Program	Sub-Program Name	Sub-Program Description
DP03	Long Term Services and Support Modernization	This sub program will cover the modernization of the Long Term Services and Support systems and will consist of 2 releases. The first release will include incident reporting while the second release will cover the rest. MNChoices is covered in this sub program.
DP04	Child Support Modernization	This sub program will cover the modernization of the Child Support System and will be completed in 2 releases. Release1 will cover basic functionality while Release 2 will take care of all additional functional requirements. Following Release 1, PRISM will be decommissioned/replaced.
DP05	Child Welfare Modernization	This sub program will cover the modernization of the Child Welfare systems and will be completed in 2 releases. Release1 will cover basic functionality while Release 2 will take care of all additional functional requirements. Following Release 1, SSIS will be decommissioned/replaced.
DP06	Modernization of Other Smaller DHS Programs	This sub program will cover the modernization of smaller DHS programs.
DP07	Business Intelligence Modernization	This sub program will cover the modernization of BI infrastructure along with supporting each of the above mentioned programs with new BI and DW functionality.
DP08	Policy and Process Simplification	This sub program will look at process and policy simplification for financial processes and other processes to be identified.



Sub-Program	Sub-Program Name	Sub-Program Description
DP09	Information Governance Improvement	This sub program will look at various governance activities required to support the systems modernization both during implementation and sustainment. Areas of focus will include but are not limited to privacy impact assessment, data sharing agreement development and implementation, along with risk governance and benefits realization/tracking.
DP10	IT Function Modernization	This sub program will be focused on governance improvements, lean process design (based on ITIL), organization improvements and IT systems management automation.
DP11	Contact Center Modernization	This sub program will cover the modernization of the contact center and will include process design and organization improvements.
OP01	Minnesota DHS Enterprise System Modernization Ongoing Operations	This sub program is ongoing and will cover all operational support aspects of this modernization effort.

### **Initiative Definitions:**

Initiative	Initiative Name	Initiative Description
1001	DHS Enterprise System Modernization Mobilization	This initiative will address all mobilization activities for the DHS Enterprise Systems Modernization and Mobilization related to design and implementation. This includes determining the procurement strategy, EA and solution delivery methods/standards, technical assessments, and business case benefit targets.
1002	DHS Modernization Procurement	This initiative will address the procurement of services and resources which will include external resources, application software and technical software procurement, along with infrastructure procurement.



Initiative	Initiative Name	Initiative Description
1003	DHS Modernization Technology Infrastructure Acquisition and Deployment	This initiative will address acquiring, deploying and developing the technology infrastructure and environments required for this implementation. This will also include the acquisition, development and deployment of production infrastructure & technology, testing, training and hosting servers along with relevant licensing requirements.
1004	DHS Modernization Software Package Acquisition and Deployment	This initiative will address acquiring and deploying all technical and business application software components required for this implementation. This will include security, and integration components that are required along with licensing. Software application components will include the selection and acquisitions of COTS products for Compliance Tracking, Grants Mgmt, Contracts Management and Marketing/Outreach.
1005	Integrated Eligibility Modernization Delivery Release 2 - Medicaid Improvements	This initiative will address the modernization of Integrated Eligibility but will be specific to Medicaid improvements. This will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery of all improvements related to IES relevant to Medicaid. This initiative will also include data conversion/load, manual data cleanup and external system integration to county and state systems (i.e.,MMIS, SWIFT, SOS, MSOP). Relevant federal systems will also be addressed.



Initiative	Initiative Name	Initiative Description
1006	Integrated Eligibility Modernization Delivery Release 3 - SNAP & Cash	This initiative will address the modernization of Integrated Eligibility but will be specific to SNAP and Cash. This will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all SNAP and Cash modernized system functionality. This initiative will also include data conversion/load, and manual legacy data clean up.
1007	Integrated Eligibility Modernization Delivery Release 4 - Child Care	This initiative will address the modernization of Integrated Eligibility but will be specific to Child Care This will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all Child Care modernized system functionality including training. This initiative will also include data conversion/load, and manual legacy data clean up.
1008	Integrated Eligibility Modernization Delivery Release 5 - IES Improvements	This initiative will address any remaining or identified (as result of previous IES releases) improvements. This will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all system functionality improvement including training.



Initiative	Initiative Name	Initiative Description
1009	Home and Community Services Delivery - Basic	This initiative will address the basic release of the modernization of Home and Community Services programs system functionality. This first release will be considered small and will cover basic HCSP system functionality including Incident reporting. For what is in scope for this release, this initiative will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all system functionality improvement including training.
1010	Child Support Delivery Release 1 - Basic	This initiative will address the modernization of Child Support system functionality. In this initiative, the basic functionality will be delivered. For the scope of this release, this initiative will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all system functionality improvement including training. This initiative also includes the decommissioning of PRISM and the rollout of functionality to service delivery partners.
I011	Child Support Delivery Release 2 - Enhanced	This initiative will address the modernization of Child Support system. In this initiative, the remaining system functionality will be delivered. For the scope of this release, this initiative will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all system functionality improvement including training. This initiative also includes system rollout to service delivery partners.



Initiative	Initiative Name	Initiative Description
1012	Child Welfare Delivery Release 1 - Basic	This initiative will address the modernization of Child Welfare system functionality. In this initiative, the basic functionality will be delivered. For the scope of this release, this initiative will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all system functionality improvement including training. This initiative also includes the decommissioning of SSIS and the rollout of functionality to service delivery partners.
1013	Child Welfare Delivery Release 2 - Enhanced	This initiative will address the modernization of Child Welfare system functionality. In this initiative, all remaining functionality will be delivered. For the scope of this release, this initiative will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all system functionality improvement including training. This initiative also includes the rollout of system functionality to service delivery partners.
I014	Home and Community Services Delivery - Enhanced	This initiative will address the modernization of Home and Community Program system functionality. In this initiative, all remaining functionality will be delivered. For the scope of this release, this initiative will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all system functionality improvement including training. This initiative also includes the rollout of system functionality to service delivery partners.



Initiative	Initiative Name	Initiative Description
1015	Other DHS Programs Delivery	This initiative will address the system modernization of smaller DHS programs (to be identified). For the scope of this release, this initiative will include requirements, gap analysis, logical architecture, implementation planning, design, build, configuration, integration, testing and delivery/deployment of all system functionality improvement including training. This initiative will also include the rollout of functionality to service delivery partners.
1017	Business Intelligence Delivery - Capability Upgrade	This initiative will address the upgrade of BI capabilities. More specifically, this will cover the upgrade of BI/DW Governance and Organization, and the upgrade of the platform.
1018	Business Intelligence Delivery - IES	This initiative will address any BI related upgrades or enhancements relevant to Integrated Eligibility Services. This will include requirements definition, solution design, detailed design, build/configure, and implementation of BI capabilities. This will also include identifying and implementing new data feeds to/from IES to the new DW.
I019	Business Intelligence Delivery - HCS	This initiative will address any BI related upgrades or enhancements relevant to Home Community Program Services. This will include requirements definition, solution design, detailed design, build/configure, and implementation of BI capabilities. This will also include identifying and implementing new data feeds to/from HCS to the new DW.



Initiative	Initiative Name	Initiative Description
1020	Business Intelligence Delivery - Child Support	This initiative will address any BI related upgrades or enhancements relevant to Integrated Eligibility Services. This will include requirements definition, solution design, detailed design, build/configure, and implementation of BI capabilities. This will also include identifying and implementing new data feeds to/from Child Support to the new DW.
1021	Business Intelligence Delivery - Child Welfare	This initiative will address any BI related upgrades or enhancements relevant to Integrated Eligibility Services. This will include requirements definition, solution design, detailed design, build/configure, and implementation of BI capabilities. This will also include identifying and implementing new data feeds to/from child Welfare to the new DW.
1022	Business Intelligence Delivery - Other Programs	This initiative will address any BI related upgrades or enhancements relevant to Integrated Eligibility Services. This will include requirements definition, solution design, detailed design, build/configure, and implementation of BI capabilities. This will also include identifying and implementing new data feeds to/from other identified DHS programs to the new DW.
1025	Financial Mgmt Policy and Process Simplification	This initiative will address the review and simplification of Financial Management policies and processes. This will also include the design the simplified policies and processes.
1026	Other Policy and Process Simplification - Placeholder	This initiative will address the review and simplification of other identified DHS policies and processes. This will also include the design the simplified policies and processes.



Initiative	Initiative Name	Initiative Description
1030	Information Governance Improvement	This initiative will address required governance improvements which include the following: Privacy Impact Assessment, Threat Risk Assessment, design and implementation of Data Governance Standards and data sharing agreement policies and standards.
1031	IT Function Modernization	This initiative will address IT function Modernization and will include the design and implementation of governance improvements, lean IT processes, organizational improvements, acquiring IT staff, and ITSM automation.
1032	Contact Center Delivery	This initiative will address the modernization of the Contact Center. More specifically, it will cover the design and implementation of contact center processes and organization along with the acquisition and training of staff.
1036	Ongoing Operations - Infrastructure & Technical Components	Ongoing operations cover all required operational activities related to the infrastructure and technical components of DHS Enterprise Systems Modernization.
1037	Ongoing Operations and Support - Business Systems	Ongoing operations covers all required operational activities related to DHS Enterprise Systems Modernization business systems
1999	DHS Modernization Enterprise-wide Management	This initiative covers all enterprise wide program/project management for this systems modernization effort. More specifically, this includes, communications/change management, architecture integration, validation/verification, portfolio/architecture reviews, benefits tracking/realization, facilities provisioning, travel, mobilization etc.



### **Project Definitions:**

Project	Project Name	Project Description
P001	Mobilization of DHS Enterprise-wide Systems Modernization	This project covers initial mobilization, determining the procurement strategy, EA and solution delivery standards, technical assessment, reusability and replatform along with business benefits target definitions.
P002	Mobilization of integration teams	This project covers the mobilization of the teams that will address integration requirements.
P006	Upgrade BI/DW Governance and Organization	This project covers defining BI Governance and organizational capability and role, along with training and acquiring BI resources.
P007	Upgrade BI/DW Platform	This project includes defining, acquiring and installing the DW dev, test, training and production storage environment, along with acquiring and implementing data warehouse software and BI/analytics software, DW ODS, DW Data store and enhanced data feeds from legacy systems to DW.
P009	Services and Resources Procurement Process	This project covers the procurement of services and resources relevant to the overall modernization.
P010	Software Procurement Process	This project covers the procurement of software required for the overall modernization.
P011	Infrastructure Procurement Process	This project covers the procurement of infrastructure required for the overall modernization.
P013	Team and Development Environment Acquisition and Deployment	This project covers the acquisition and deployment of the development infrastructure environment.
P014	Production Infrastructure Acquisition and Deployment	This project covers the acquisition and deployment of the production infrastructure environment.
P017	Technical Component Software Product Acquisition and Deployment	This project covers the acquisition and deployment of the technical components required to meet the functional business requirements.



Project	Project Name	Project Description
P018	Business Application Software Product Acquisition and Deployment	This project covers the acquisition and deployment of the technical components required to meet the functional business requirements.
P019	Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R4	This project covers the requirements, gap analysis and logical architecture specification for Integrated Eligibility improvements.
P020	Decommission MAXIS	This project will cover the decommissioning of MAXIS
P021	Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R2	This project covers the requirements, gap analysis and logical architecture specification for Integrated Eligibility Medicaid improvements.
P022	Implementation Planning - Integrated Eligibility R2	This project covers the implementation planning required for Integrated Eligibility Medicaid system functionality release.
P023	Application Component Build/ Configure/ Test - Integrated Eligibility R2	This project covers the build, configure and testing of Integrated Eligibility Medicaid application components.
P024	External Systems Integration - Integrated Eligibility R2	This project covers external systems integration (county, state, and federal systems) for Integrated Eligibility Medicaid improvements.
P025	Data Conversion - Integrated Eligibility R2	This project covers the data conversion for Integrated Eligibility Medicaid system functionality.
P026	Production Support Readiness - Integrated Eligibility	This project covers the overall production support readiness for the Integrated Eligibility releases.
P027	Rollout - Integrated Eligibility R2	This project covers the rollout for the Integrated Eligibility Medicaid release.
P028	Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R3	This project covers the requirements, gap analysis and logical architecture specification for Integrated Eligibility SNAP/Cash system modernization.
P029	Implementation Planning - Integrated Eligibility R3	This project covers the implementation planning required for Integrated Eligibility SNAP/Cash system functionality release.



Project	Project Name	Project Description
P030	Application Component Build/ Configure/ Test - Integrated Eligibility R3	This project covers the build, configure and testing of SNAP/Cash application components.
P031	External Integration and Conversion - Integrated Eligibility R3	This project covers the external integration and data conversion for the Integrated Eligibility SNAP/Cash release.
P032	Rollout - Integrated Eligibility R3	This project covers the rollout for the Integrated Eligibility SNAP/Cash release.
P033	Implementation Planning - Integrated Eligibility R4	This project covers the implementation planning required for Integrated Eligibility child care modernization.
P034	Application Component Build/ Configure/ Test - Integrated Eligibility R4	This project covers the build, configure and testing of application components associated to Integrated Eligibility child care modernization.
P035	External Integration and Conversion - Integrated Eligibility R4	This project covers the external integration and data conversion for the Integrated Eligibility child care modernization.
P036	Rollout - Integrated Eligibility R4	This project covers the rollout of the Integrated Eligibility child care modernization.
P037	Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R5	This project covers the requirements, gap analysis and logical architecture specification for Integrated Eligibility improvements.
P038	Implementation Planning - Integrated Eligibility R5	This project covers the implementation planning required for Integrated Eligibility additional improvement of system functionality.
P039	Application Component Build/ Configure/ Test - Integrated Eligibility R5	This project covers the build, configure and testing of application components associated to additional Integrated Eligibility improvements.
P040	Rollout - Integrated Eligibility R5	This project covers the rollout of the Integrated Eligibility additional improvements.
P041	Requirements, Gap Analysis and Logical Architecture Specification - Child Support R1	This project covers the requirements, gap analysis and logical architecture specification for the basic release of Child Support system modernization.



Project	Project Name	Project Description
P042	Implementation Planning - Child Support R1	This project covers the implementation planning for the basic release of Child Support modernization.
P043	Application Component Build/ Configure/ Test - Child Support R1	This project covers the build, configure and testing of application components associated to the basic release of Child Support system modernization.
P044	External Systems Integration - Child Support R1	This project covers the external system (i.e., county, state, federal) integration for the basic release of Child Support system modernization.
P045	Data Conversion - Child Support	This project covers the data conversion for the Child Support system modernization.
P046	Production Support Readiness - Child Support	This project covers the production support readiness for Child Support modernization.
P047	Rollout - Child Support R1	This project covers the rollout of the Child Support basic functionality.
P048	Decommission PRISM	This project covers the decommissioning of PRIS
P050	Requirements, Gap Analysis and Logical Architecture Specification - Child Support R2	This project covers the requirements, gap analysis and logical architecture specification for the full release of Child Support system modernization.
P051	Implementation Planning - Child Support R2	This project covers the implementation planning for the full release of Child Support modernization.
P052	Application Component Build/ Configure/ Test - Child Support R2	This project covers the build, configure and testing of application components associated to the full release of Child Support system modernization.
P053	NOT USED	
P054	Rollout - Child Support R2	This project covers the rollout of the Child Support full functionality.
P055	Requirements, Gap Analysis and Logical Architecture Specification - Home & Community Programs - Basic	This project covers the requirements, gap analysis and logical architecture specification for basic release of home and community programs system modernization.
P056	Implementation Planning - Home & Community Programs - Basic	This project covers the implementation planning for the basic release of home and community programs system modernization.



Project	Project Name	Project Description
P057	Application Component Build/ Configure/ Test - Home & Community Programs - Basic	This project covers the build, configure and testing of application components associated to the basic release of home and community programs system modernization.
P058	External Integration & Data Load - Home & Community Programs - Basic	This project covers the external system (i.e., county, state, federal) integration for the basic release of home and community programs system modernization.
P059	Rollout - Home & Community Programs - Basic	This project covers the rollout of the home and community programs basic functionality.
P060	Requirements, Gap Analysis and Logical Architecture Specification - Child Welfare R1	This project covers the requirements, gap analysis and logical architecture specification for basic release of Child Welfare system modernization.
P061	Implementation Planning - Child Welfare R1	This project covers the implementation planning for the basic release of Child Welfare system modernization.
P062	Application Component Build/ Configure/ Test - Child Welfare R1	This project covers the build, configure and testing of application components associated to the basic release of Child Welfare system modernization.
P063	External Systems Integration - Child Welfare R1	This project covers the external system (i.e., county, state, federal) integration for the basic release of Child Welfare system modernization.
P064	Data Conversion - Child Welfare	This project covers the data conversion required for the Child Welfare Systems modernization.
P066	Production Support Readiness - Child Welfare	This project covers the production support readiness for Child Welfare modernization.
P067	Rollout - Child Welfare R1	This project covers the rollout for Child Welfare basic functionality.
P068	Decommission SSIS	
P070	Requirements, Gap Analysis and Logical Architecture Specification - Child Welfare R2	This project covers the requirements, gap analysis and logical architecture specification for full release of Child Welfare system modernization.
P071	Implementation Planning - Child Welfare R2	This project covers the implementation planning for the full release of Child Welfare system modernization.



Project	Project Name	Project Description
P072	Application Component Build/ Configure/ Test - Child Welfare R2	This project covers the build, configure and testing of application components associated to the full release of Child Welfare system modernization.
P074	Rollout - Child Welfare R2	This project covers the rollout for Child Welfare full functionality.
P075	Requirements, Gap Analysis and Logical Architecture Specification - Home & Community Programs - Enhanced	This project covers the requirements, gap analysis and logical architecture specification for full release of Home and Community Programs system functionality.
P076	Implementation Planning - Home & Community Programs - Enhanced	This project covers the implementation planning for the full release of Home and Community Programs system functionality.
P077	Application Component Build/ Configure/ Test - Home & Community Programs - Enhanced	This project covers the build, configure and testing of application components associated to the full release of Home and Community Programs system functionality.
P078	External Integration & Data Load - Home & Community Programs - Enhanced	This project covers the external integration (i.e., county, state, federal systems) and data load for the full release of Home and Community Programs System functionality.
P079	Rollout - Home & Community Programs - Enhanced	This project covers the roll out of the full release of Home and Community Programs system functionality.
P080	Requirements, Gap Analysis and Logical Architecture Specification - Other DHS Programs	This project covers the requirements, gap analysis and logical architecture specification the full release of system functionality associated to other DHS programs
P081	Implementation Planning - Other DHS Programs	This project covers the implementation planning for the full release of system functionality associated to other DHS programs
P082	Application Component Build/ Configure/ Test - Other DHS Programs	This project covers the build, configure and testing of application components associated to the full release of system functionality associated to other DHS programs



Project	Project Name	Project Description
P083	External Systems Integration - Other DHS Programs	This project covers the external integration (i.e., county, state, federal systems) and data load for the full release of system functionality associated to the other DHS programs.
P084	Data Conversion - Other DHS Programs	This project covers the data conversion associated to the full release of system functionality for other DHS programs.
P086	Production Support Readiness - Other DHS Programs	This project covers production support readiness for other DHS programs.
P087	Rollout - Other DHS Programs	This project covers the rollout of system functionality for other DHS programs.
P088	Decommission Other DHS Program Systems	This project covers decommissioning other DHS program systems.
P090	Business Intelligence Delivery - R01 - Add new IEr2	This project covers BI upgrades to support Integrated Eligibility Medicaid system modernization.
P091	Business Intelligence Delivery - R02 - Add new IEr3	This project covers BI upgrades to support Integrated Eligibility SNAP/Cash system modernization.
P092	Business Intelligence Delivery - R03 - Add new IEr4	This project covers BI upgrades to support Integrated Eligibility Child Care system modernization.
P093	Business Intelligence Delivery - R04 - Add new IEr5	This project covers BI upgrades to support Integrated Eligibility additional improvements to system functionality.
P094	Business Intelligence Delivery - R05 - Add new HCSr1	This project covers BI upgrades to support Home and Community program system modernization basic functionality.
P095	Business Intelligence Delivery - R06 - Add new CSr2	This project covers BI upgrades to support the Child Support system modernization basic functionality.
P096	Business Intelligence Delivery - R07 - Add new CSr2	This project covers BI upgrades to support Child Support system modernization full functionality.
P097	Business Intelligence Delivery - R08 - Add new CWr1	This project covers BI upgrades to support the Child Welfare system modernization basic functionality.
P098	Business Intelligence Delivery - R09 - Add new CWr2	This project covers BI upgrades to support Child Welfare system modernization full functionality.



Project	Project Name	Project Description
P099	Business Intelligence Delivery - R10 - Add new Other	This project covers BI upgrades to support the modernization of other DHS programs.
P100	Business Intelligence Delivery - R05 - Add new HCSr2	This project covers BI upgrades to support Home and Community program system modernization full functionality.
P110	Financial Mgmt Policy and Process Simplification	This project covers the design and implementation of simplified financial management policy and processes.
P111	Other Policy and Process Simplification - Placeholder	This project covers the design and implementation of other policies and processes (to be defined).
P112	Privacy Impact Assessment	This project covers the completion of the privacy impact assessment.
P113	Data Sharing Agreement Development and Implementation	This project covers the development and implementation of data sharing standards and agreements.
P114	IT Function Governance Improvement	This project covers the overall improvement of IT function governance.
P115	IT Function Lean Process Design	This project covers the design and implementation of lean processes.
P116	IT Function Organizational Improvement	This project addresses and implements organizational improvements relevant to the DHS modernization work.
P117	IT Systems Management Automation	This project will implement IT Systems Management Automation.
P118	Contact Center Organization Design	This project will design and implement organizational components of the contact center modernization.
P119	Contact Center Implementation	This project will implement all components relevant to the contact center modernization.
P120	Ongoing Operations Placeholder	This project is considered a placeholder for ongoing operational activities.
P197	DHS Modernization Enterprise-wide Management	This project will all program and project management activities.
P198	Hardware Lease and SW Licenses during Delivery	This project covers acquiring and managing hardware and software licensing.



Project	Project Name	Project Description
P201	Infrastructure & Hosting Operations	This project covers managing and implementing all infrastructures and hosting operations.
P202	Business Applications' Licenses	This project covers acquiring and managing business application licenses.
P203	Technical Components Operations and Support	This project provides operation and support relevant to technical components.
P205	Applications Support & Maintenance	This project provides maintenance and support relevant to application components and packages.
P206	Application Enhancements	This project covers deploying required enhancement to applications.
P207	Application Integration Support and Enhancements	This project covers delivering integration enhancement and support relevant to application components and packages.

### Enabling Work Package Definitions - Business:

Work Package ID EBU001	Work Package Name Mobilize DHS Enterprise-wide System Modernization	Work Package Description Initial mobilization of systems modernization design and implementation. Includes all supporting project management activities.	Duration 235 days (1Q)
EBU002	Design Contact Center Processes	Process design of Contact Center operations. This work package defines the processes that will be followed for call taking, call routing, Call escalation and follow-up. Call transfers and Emergency Dispatch, if necessary.	120 days (2Q)



Work Package ID EBU003	Work Package Name Design Contact Center	Work Package Description This work package will design the structure of the contact centre to	Duration 120 days
	Organization	ensure appropriate skills (language, type of case, information gathering and DHS services knowledge) and staffing levels that will be sufficient to handle the inquiry and problem resolution call loads. Includes definition of job descriptions and compensation.	(2Q)
EBU004	Enterprise Architecture and Solution Delivery Methods and Standards Development	This work package will identify, design and develop the enterprise architecture and solution delivery methodologies and standards required to support the implementation and sustainment of the systems modernizations.	310 days (1Q)
EBU005	Design Customer Experience using UX Stds	This work package is part of the Integrated Eligibility release 2 and will define and design User Experiences standards for Integrated Eligibility modernization (Medicaid improvements.	220 days (2Q)
EBU006	Detailed Impl & Rollout Plan, Business Case Update - Child Welfare R1	This work package is part of the first release of Child Welfare modernization and will cover developing the implementation and rollout plan for this release.	251 days (1Q)
EBU007	Delivery Team Training - Methods, Standards, Software	This represents the cost of developing and delivering both custom in house training for teams, and product training.	688 days
EBU008	Detailed Impl & Rollout Plan, Business Case Update - IES R2	This work package is part of the second release of Integrated Eligibility modernization and will cover the developing of the implementation and rollout plan for this release.	295 days (1Q)



Work Package ID	Work Package Name	Work Package Description	Duration
EBU009	Detailed Impl & Rollout Plan, Business Case Update - Child Support R1	This work package is part of the first release of Child Support modernization and will cover the developing of the implementation and rollout plan for this release.	224 days (1Q)
EBU010	Detailed Impl & Rollout Plan, Business Case Update - Child Welfare R2	This work package is part of the second release of Child Welfare modernization and will cover the developing of the implementation and rollout plan for this release.	51 days (1Q)
EBU011	Define System Support Organizational Requirements	Define the required organizational roles, skills, and accountabilities to operate and support the new DHS integrated system. Scope of this study includes not only supporting the immediate release, but also includes projecting the organizational needs to support the future state solution. Includes definition of job descriptions and compensation.	100 days (2Q)
EBU012	Acquire System Support Resources	This work package will assess current staff, determine new staffing required, and conduct the necessary Existing staff will be assigned, and some recruitment and acquisition of resources may be needed.	100 days (2Q)
EBU013	Manual Cleanup of Legacy data - MAXIS Medicaid to Integrated Eligibility	This work package will account for all the manual data cleanup required of legacy data from MAXIS Medicaid data to Integrated Eligibility systems	4581 days (2Q)
EBU014	Project Team Facilities Provision	To be added	



Work Package ID	Work Package Name	Work Package Description	Duration
EBU015	Travel Costs	This work package accounts for all the resource interstate travel costs related to DHS Enterprise Systems modernization implementation. Please see Travel Assumptions spreadsheet.	N/A
EBU016	Supplies Provision	This work package accounts for the provisioning of supplied required by FTEs while supporting the DHS Enterprise Systems modernization implementation. Please see estimating assumptions	N/A
EBU017	Independent Validation and Verification	To be added	2592 days (24Q)
EBU018	Rollout to Service Delivery Partners - Integrated Eligibility R2	This work package is part of release two of the Integrated Eligibility modernization and will deliver the rollout of Integrated Eligibility functionality to service delivery partners.	1156 days (2Q)
EBU019	Manual Cleanup of Legacy data - PRISM to Child Support	This work package will account for all the manual data cleanup required of legacy data from PRISM to the new child support system.	2469 days (2Q)
EBU020	Manual Conversion of Legacy data - SSIS to Child Welfare	This work package will account for all the manual data cleanup required of legacy data from SSIS to the new child welfare system.	279 days (1Q)
EBU021	Manual Conversion of Legacy data - Legacy to Other DHS Pgms	This work package will account for all the manual data cleanup required of legacy data from legacy systems to other DHS program systems.	313 days (2Q)



Work Package ID	Work Package Name	Work Package Description	Duration
EBU022	Rollout to Service Delivery Partners - Child Support R1	This work package is part of Child Support Release 1 and will account for the rollout of Child Support Basic system functionality to Service Delivery Partners.	990 days (2Q)
EBU023	Rollout to Service Delivery Partners - Child Welfare R1	This work package is part of Child Welfare Release 1 and will account for the rollout of Child Welfare Basic system functionality to Service Delivery Partners.	1038 days (1Q)
EBU024	Rollout to Service Delivery Partners - Home & Community Pgms - R1	This work package is part of Child Welfare Release 1 and will account for the rollout of HMCP basic system functionality to Service Delivery Partners.	565 days (2Q)
EBU025	Rollout to Service Delivery Partners - Other DHS Pgms	This work package will account for the rollout of Basic system functionality for other DHS programs (to be determined) to Service Delivery Partners.	947 days (2Q)
EBU026	Define BI Governance and Organizational Capability and Role Requirements	New Roles and Skills Designed	150 days (1Q)
EBU027	Acquire BI Resources	Identify and acquire BI Resources	100 days (1Q)
EBU028	Train BI Resources	Train BI Resources	(1Q)
EBU029	Design Simplified Financial Mgmt Policy	This work package will review the existing financial management policy and design a simplified policy.	105 days (2Q)
EBU030	Design Simplified Financial Mgmt Process	This work package will review the existing financial management process and design a simplified process.	220 days (3Q)



Work Package ID EBU031	Work Package Name Design Simplified Other Policies	Work Package Description           s         This work package is a placeholder for the review and simplification		
FBU032	- Placeholder Design Simplified Other	of other DHS policies. This work package is a placeholder for the review and simplification	(12Q) 708 days	
	Processes - Placeholder	of other DHS processes.	(13Q)	
EBU033	Design Data Sharing Agreement Policy and Standards	<b>It</b> This work package will design the overall data sharing agreement and policy and standards for DHS.		
EBU034	Implement Data Sharing Agreements	This work package will create the forms/documents (hardcopy or electronic) and will communicate them to all parties (DHS Programs, Counties/Tribes, Providers and other key organizations through local individual or group/regional sessions.	120 days (2Q)	
EBU035	Design IT Governance Improvements	This work package defines improvements needed to IT governance structures, processes and accountabilities to ensure effective management of competing priorities with the emerging modernized system.	60 days (1Q)	



Work Package			
ID	Work Package Name	Work Package Description	Duration
EBU036	Design Lean IT Processes	This work package will review existing IT Processes and apply lean (ITIL based) principles to these processes. If required, this work page will include the definition of new lean processes to support DHS Systems modernization implementation and sustainment.	270 days (2Q)
EBU037	Determine Procurement Strategy	This work package will account for determining the DHS Systems modernization procurement strategy for infrastructure, applications and services.	50 days (1Q)
EBU038	Update Roadmap Plan and Estimates for IES R2	This work package will account for making any required updates to the IES roadmap plan and estimates as a result of design and implementation of IES.	113 days (1Q)
EBU039	Detailed Impl & Rollout Plan & Business Case Update IES R3	This work package is part of Release 3 of Integrated Eligibility systems modernization and will account for defining the implementation and rollout plan for SNAP and CASH functionality.	99 days (1Q)
EBU040	Rollout to Service Delivery Partners - Integrated Eligibility R3	This work package will account for the actual rollout of SNAP and CASH Functionality to service delivery partners.	1016 days (1Q)
EBU041	Detailed Impl & Rollout Plan, Business Case Update - Other DHS Programs	This work package will account for defining the implementation and rollout plan for the implemented system functionality for other DHS programs (to be determined)	295 days (1Q)



Work Package			
ID	Work Package Name	Work Package Description	Duration
EBU042	Detailed Impl & Rollout Plan,	This work package is part of Release 2 of the Child Support systems	51 days
	Business Case Update - Child	modernization and will account for defining the implementation and	(1Q)
	Support R2	rollout plan for advanced Child Support functionality	
EBU043	Rollout to Service Delivery	This work package is part of Child Support Release 1 and will	424 days
	Partners - Child Support R2	account for the rollout of Child Support Basic system functionality to	(1Q)
		Service Delivery Partners.	<b>、</b> ,
FBU044	Rollout to Service Delivery	This work package is part of Child Welfare Release 2 and will	448 days
LDCC++	Partners - Child Welfare R2	account for the rollout of Child Welfare advanced system	(10)
		functionality to Service Delivery Partners.	(1.4)
EBU045	Detailed Impl & Rollout Plan,	This work package is part of Release 1 of the Home and Community	101.5 days
	Business Case Update - Home	Programs systems modernization and will account for defining the	(1Q)
	& Community Programs R1	implementation and rollout plan for basic functionality (Incident	
		reporting etc).	
	Design IT Organizational	Define the required organizational release kills, and accountabilities	100 days
EB0040	Design II Organizational Poquiromonts	to fulfill the Lean IT process design Scope of this study includes	(20)
	Requirements	identification of changes to roles, skills, and work volumes resulting	(20)
		from the redesigned processes. Includes definition of job	
		descriptions and compensation	



Work Package			
ID	Work Package Name	Work Package Description	Duration
EBU047	Acquire IT Staff	This work package will assess current staff, determine new staffing required, and conduct the necessary training. Existing staff will be assigned, and some recruitment and acquisition of resources may be needed.	100 days (2Q)
EBU048         Acquire Contact Center Staff         This work pack staffing require acquisition will organizations.		This work package will assess current DHS staff and determine new staffing required (possibly with outsourcing for peak periods). The acquisition will include individuals and call center outsourcing organizations.	60 days (1Q)
EBU049	Train Contact Center Staff	Training of new and existing Contact Center staff on processes and procedures. Including call quality standards.	60 days (1Q)
EBU050	Communications and Change Mgmt Support	This work package is part of Modernization DHS Enterprise wide management and will address all communication and change management requirements and support	1296 days (24Q)
EBU051	Develop Business Case Benefit Targets	This work package is part of the mobilization activities for the DHS enterprise wide systems modernization and will identify business benefits targets that should be achieved as outcome of this implementation.	200 days (1Q)



Work Package	Work Deckers News	Werk Deckere Decerintien	Duration
EBU052	Portfolio Gate Reviews	This work package is part of Modernization DHS Enterprise wide management and includes all the work effort related to providing portfolio gate reviews throughout the implementation. These reviews will include DHS Systems modernization stakeholders.	480 days (24Q)
EBU053	Architecture Gate Reviews	This work package is part of Modernization DHS Enterprise wide management and it covers all activities related to architecture gate reviews of the various architectures and solutions as part of the overall DHS Enterprise Systems modernization implementation. This will include all relevant architecture SMES, and stakeholders.	480 days (24Q)
EBU054	Benefits Tracking and Realization	This work package is part of Modernization DHS Enterprise wide management and will account for all benefits tracking and realization activities throughout this implementation.	480 days (24Q)
EBU055	Manual Cleanup of Legacy data - MAXIS SNAP & Cash to Integrated Eligibility	This work package will account for all the manual data cleanup required of legacy data from MAXIS SNAP & Cash to the new Integrated Eligibility system.	3412 days (1Q)
EBU056	Manual Cleanup of Legacy data - MAXIS Child Care to Integrated Eligibility	This work package will account for all the manual data cleanup required of legacy data from MAXIS Child Care to the new Integrated Eligibility system.	222 days (2Q)



Work Package ID	Work Package Name	Work Package Description	Duration		
EBU057	Detailed Impl & Rollout Plan & Business Case Update IES R5	This work package is part of Release 5 of the Integrated Eligibility systems modernization and will account for defining the implementation and rollout plan for any additional IES improvements (requirements to be determined).	295 days (1Q)		
EBU058	<ul> <li>Rollout to Service Delivery Partners - Integrated Eligibility R4</li> <li>This work package is part of Release 4 of the Integrated Eligibility system modernization and will account for the rollout of Child Care functionality to service delivery partners.</li> </ul>				
EBU059	Rollout to Service Delivery Partners - Integrated Eligibility R5	This work package is part of Release 5 of the Integrated Eligibility system modernization and will account for the rollout of additional functionality supporting IES improvements (requirements to be determined).	285 days (1Q)		
EBU060	Manual Cleanup of Legacy data - SSIS to new HCBS R1	This work package will account for the entire manual data cleanup required of legacy data from SSIS to the new HCBS basic system release.	765 days (2Q)		
EBU061	Detailed Impl & Rollout Plan, Business Case Update - Home & Community Programs R2	This work package is part of Release 2of the Home and Community Programs modernization and will account for defining the implementation and rollout plan for any advanced HCPS functionality.	154 days (1Q)		
EBU062	Manual Cleanup of Legacy data - SSIS to new HCBS R2	This work package will account for all the manual data cleanup required of legacy data from SSIS to the new HCBS advanced systems release (all HCBS functionality).	765 days (2Q)		



Work Package ID	Work Package Name	Work Package Description	Duration
EBU063	Rollout to Service Delivery Partners - Home & Community Pgms - R2	This work package is part of Release 2 of the Home and Community Programs system modernization and will account for the rollout of advanced functionality of HCPS (all functionality) to service delivery partners.	565 days (2Q)

### Appendix C: Resource Requirement Details

See separate Appendix C documentation.

### Appendix D: Estimating Assumptions – Resources and Rates

See separate Appendix D documentation.



### Appendix E: Application Component Function Point Estimates and Mapping to Releases

See separate Appendix E documentation.

### Appendix F: Mapping of Programs to Releases

See separate Appendix F documentation.

# Appendix G: Estimating Assumptions - Software Products

See separate Appendix G documentation.

### Appendix H: Estimating Assumptions - Infrastructure

See separate Appendix H documentation.



# Appendix I: Estimating Assumptions – Ongoing Operations

Ongoing Operational estimates include the following:

- Annual work effort estimates for ongoing operations of all infrastructure, technical and business applications components, integration components, and software products
- Annual work effort estimates for enhancements to business applications components, and integration components
- Annual warranty costs for hardware infrastructure (assumed to be 20% of purchase cost)
- Annual software maintenance fees (22% of initial purchase cost is assumed)

Operational work effort is assumed to be 80% internal staff, 20% external.

Operations cost estimates do not include:

- Hardware replacement costs
- Management, planning, and finance and contract management functions within IT
- Help desk
- System development resources and costs
- Ongoing user and technical training resources and costs
- Supplies, and overhead costs, other than those built into the assumed costs for internal resources (see Appendix D)



### Appendix J: Other Estimating Assumptions

### Manual Data Cleanup Assumptions

Release	Estimated Clients in Program	% Requiring Manual Cleanup	Manual Cleanup Effort (portion of 8 hour day)	Total Workdays for Cleanup	Source
Medicaid Improvements	733,000	5%	0.125	4,581	MN DHS Website
SNAP/Cash	545,864	5%	0.125	3,412	MN DHS Website
Child Care	35,476	5%	0.125	222	MN DHS Website
Integrated Eligibility Enhancements		5%	0.125	-	
HCBS (LTSS)	203,970	5%	0.125	1,275	2011 Alternative Care Fact Sheet, MN DHS Website



Release	Estimated Clients in Program	% Requiring Manual Cleanup	Manual Cleanup Effort (portion of 8 hour day)	Total Workdays for Cleanup	Source
Child Support R1	395,000	5%	0.125	2,469	2012 Minnesota Child Support Performance Report
Child Support R2		5%	0.125	-	
Child Welfare R1	22,312	5%	0.25	279	MN DHS Website
Child Welfare R2		5%	0.25	-	
Other	50,000	5%	0.125	313	No estimate available - 50,000 assumed

Total

1,985,622

12, 550

Assumption: Client figures and statistics were pulled and assembled from a variety of sources between August and September 2012 which included sources and documentation provided by DHS via the ESM SharePoint site, the public MN DHS website including FY reports and fact sheets. Input was also provided directly through DHS review and input to the MN DHS Program Inventory which was compiled by KPMG.


# IT Team and Support Team Training Assumptions

IT Team and Support Training												
Release	Total Number of Users	Standard Product Training Days Per Release per person	Ven Per Day Per	ndor Cost Training v Per son	DHS Custom Process and Solution Training Days Per Release per person	NOT USED	Number of IT Team to be Trained - Vendor Product (based on Dev Team estimate and Ops Team estimate)	Total Vendor Training Days	Number of IT Team to be Trained - Custom Training	Total Custom Training Days	Tot	al Vendor urse Costs
Development											\$	2,500,000
Team Training	200	25	\$	500.00	5		200	5000	200	1,000		
Operations and Support Team Training												
Medicaid											\$	562,500
Improvements	45	25	\$	500.00	5		45	1125	45	225		
SNAP/Cash											\$	22,500
	45	1	\$	500.00	3		45	45	45	135		
Child Care											\$	22,500
	45	1	\$	500.00	3		45	45	45	135		
Integrated											\$	22,500
Eligibility	45	1	\$	500.00	2		45	45	45	90		



Enhancements									
LTSS									\$ 45,000
	45	2	\$ 500.00	4	45	90	45	180	
Child Support R1									\$ 45,000
	45	2	\$ 500.00	4	45	90	45	180	
Child Support R2									\$ 22,500
	45	1	\$ 500.00	2	45	45	45	90	
Child Welfare R1									\$ 45,000
	45	2	\$ 500.00	4	45	90	45	180	
Child Welfare R2									\$ 22,500
	45	1	\$ 500.00	2	45	45	45	90	
Other									\$ 45,000
	45	2	\$ 500.00	4	45	90	45	180	
Total	450	38	\$ 5,000.00	33		1710			

# End User Training Assumptions

Business Staff (End-user Training)										
Release	Total Number of Users	Standard Product Training Days Per Release	Vendor Cost Per Training Day Per Person	DHS Custom Process and Solution Training Days Per Release per person	BI/Reporting Training Days Per Person	Number of Users to be Trained - Vendor Product	Total Vendor Training Days	Number of Users to be Trained - Custom Training	Total Custom Training Days	Total Vendor Course Costs
Medicaid			\$							\$
Improvements	6,045	5	500.00	3	1	600	3000	1200	4,800	1,500,000
SNAP/Cash			\$							\$
	6,045	5	500.00	3	1	600	3000	1200	3,600	1,500,000
Child Care			\$							\$
	3,000	5	500.00	3	1	300	1500	600	1,800	750,000



Integrated										\$
Eligibility			\$						1,200	900,000
Enhancements	6,045	3	500.00	1	0.5	600	1800	1200		
LTSS			\$							\$
	3,000	1	500.00	3	1	300	300	600	1,800	150,000
Child Support R1			\$							\$
	4,500	1	500.00	3	1	450	450	900	2,700	225,000
Child Support R2			\$							\$
	4,500	1	500.00	1	0.5	450	450	900	900	225,000
Child Welfare R1			\$							\$
	6,000	1	500.00	3	1	600	600	1200	3,600	300,000
Child Welfare R2			\$							\$
	6,000	1	500.00	1	0.5	600	600	1200	1,200	300,000
Other			\$							\$
	2,000	1	500.00	3	1	200	200	600	1,800	100,000
Total	47,135	24	\$	24	8.5		11900			
			5,000.00							

# End User Computer Based Training Assumptions

Business Staff (End- user Training)									
						Total			
	Custom					Custom			
	Developm					Training			
	ent Days	Hours of			Days of	Developm		Total	
	per	Custom	Training		Developme	ent Days -	Total Days	Custom CBT	xref to
	Training	CBT	Delivery per	Average	nt per hour	Classroo	of Training	Developme	cost
Release	Day	Required	Training Day	Class Size	of CBT	m	Delivery	nt Days	model



Medicaid									
Improvements	30	4	1.2	15	22	90	384	88	EBU018
SNAP/Cash	30	2	1.2	15	22	90	288	44	EBU040
Child Care	30	2	1.2	15	22	90	144	44	EBU058
Integrated Eligibility									
Enhancements	30	1	1.2	15	22	30	96	22	EBU059
LTSS	30	3	1.2	15	22	90	144	66	EBU024
Child Support R1	30	3	1.2	15	22	90	216	66	EBU022
Child Support R2	30	1	1.2	15	22	30	72	22	EBU043
Child Welfare R1	30	3	1.2	15	22	90	288	66	EBU023
Child Welfare R2	30	1	1.2	15	22	30	96	22	EBU044
Other	30	4	1.2	15	22	90	144	88	EBU025
Business Staff (End- user Training)									

#### IT Team and Support Team Training Assumptions

In support of the training estimates for the transformation roadmap, KPMG includes the following estimating assumptions:

• The average cost per student per day of instruction is estimated at \$500/day. KPMG realizes that this estimate is lower than current industry rates (\$700-\$900/student/day); however, we assume that volume discounts can be leveraged with vendors.



- KPMG assumes that vendor training will be provided on Cúram software and other technology products (i.e. Oracle).
- KPMG assumes the maximum number of development team members to receive vendor training to be 200.
- The average size of the Operations and Support team to receive vendor training is estimated at 45 core Operations and Support personnel per release.
- The number of training days for the 1<sup>st</sup> release is estimated to be higher than for subsequent releases as much of the core team will remain the same throughout each release training phase. Product training content is estimated to be elevated in the first release with incremental standard and custom product training and content thereafter.
- An increased amount of time will be spent on developing training in support of a "train-the-trainer" approach. Subsequently training costs include costs to both develop and train users on classroom and computer-based training for self-study purposes.

#### **Business Staff (End User Training) Assumptions**

- The average training cost per student per day is estimated at the same rate for Business Staff training as for the IT team.
- As with the IT Team, the number of training days for the 1<sup>st</sup> release is estimated to be higher than for subsequent and incremental releases.
- KPMG assumes that 10% of total business staff will received standard vendor product training.
- Compared to the IT Team, a larger number of business staff will receive custom training with follow-on Computer-based training (CBT).
- As with the IT Team and in support of a "train-the-trainer" approach and building inherent mentoring capabilities, training costs include costs to both develop and train users on classroom and computer-based training for self-study purposes.

#### **General Assumptions**

• DHS will identify central training locations across the State. Training locations are identified to minimized commute times for county representatives and system end-users.



- Training will be held via a combination of web-based and instructor-led classroom instruction.
- Classroom sizes will not exceed 15 participants.
- Participant Guides will be made available to participants for self-study and post-training review.
- Fully burdened conservative assumption for course development 34:1 (design, lesson plans, handouts, PowerPoint slides) assumption used 30 days per day of course development.
- Fully burdened conservative assumption for computer based training 220:1 -- Standard e-learning, which includes presentation, audio, some video, test questions, and 20% interactivity. Assumption used 176:1 (22 days per hour of instruction).
  - Simple Asynchronous: (static HTML pages with text & graphics): 117 hours
  - Simple Synchronous: (static HTML pages with text & graphics): 86 hours
  - > Average Asynchronous: (above plus Flash, JavaScript, animated GIF's. etc): 191 hours
  - > Average Synchronous: (above plus Flash, JavaScript, animated GIF's. etc): 147 hours
  - > Complex Asynchronous: (above plus audio, video, interactive simulations): 276 hours
  - > Complex Synchronous: (above plus audio, video, interactive simulations): 222 hours
- Assumption for instructor preparation (2 hours per day of course) (authoritative reference is 2 hours per hour of instruction)

#### **Sources for Training Estimating Assumptions**

#### **COURSE STUDENT COSTS**

Intervista and Global Knowledge

- Random sample of courses and student costs assessed on web-sites
- Doesn't factor in discounts for large groups



• Daily cost per student ranged from \$700 to \$950 per day

#### **CURRICULUM DEVELOPMENT TIME**

- 1. KPMG Business School
- 2. Learn Centrix:
- 3. Greer, M. (2009). Estimating instructional development (ID) time
- 4. Bryan Chapman of Brandon-Hall listed these average design times to create one-hour of training:
- 5. Development times to create one-hour of e-learning (The eLearning Guild, 2002):

#### **INSTRUCTOR PREPARATION**

Dugan Laird (1985)

#### **Travel Assumptions**

		COMMENTS
Number of Core Team Members Traveling	30	Includes team members traveling from Minneapolis / St. Paul to County and Tribe sites throughout the state, and County and Tribe reps traveling to Minneapolis / St. Paul
Number of Trips per Team Member per Year	48	1 per week
Average Mileage per Trip	150	



Mileage Allowance per Trip	\$	0.565	
Average days per trip		2	
Average Overnight Nights per Trip		1	
Average Hotel cost per night	\$	80.00	Most of State is \$77, Rochester, Duluth and Minneapolis/St. Paul are higher
State per diem	\$	50.00	Most of State is \$46, Rochester, Duluth and Minneapolis/St. Paul are higher
Total Number of Trips per year		1440	
Total Trip Mileage per year		216,000	
Total Hotel nights per year		1440	
Total Days per diem per year		2880	
Total Mileage Cost per Year	\$	122,040	
Total Hotel Cost per Year	\$	115,200	
Total Per Diem Cost per Year	<u>\$</u>	144,000	
TOTAL TRAVEL Expense per Year	<u>\$</u>	381,240	
Number of Years		6	
TOTAL TRAVEL EXPENSE	\$	2,287,440	



# Appendix K: Implementation Roadmap Graphic



	Q	UA	R1	ΓEF	٦L	ΥI	MF	PLE	ΞM	IEN	١T	ATI	0	N S	C	ΗE	Dι	JLE	Ξ(	FIS	SC.	AL	Y	EA	R	5)	
	2014				20	15			20	16			20	17			20 <sup>-</sup>	18			20	19			202	0	
																											T
	ğ	02	<u>0</u> 3	Q4	ğ	02	03	Q4	ğ	Q2	<b>0</b> 3	Q4	'Q1	<b>0</b> 2	<u>S</u>	<b>6</b>	ğ	02	8 <b>Q</b> 3	õ4	<b>0</b> 1	Q2	Q3	Q4	ğ	02	30
NAME	14	14	14	14	15	15	15	15	16	16	16	16	17	1	1	1	18	18	18	18	19	15	19	19	20	202	30
Minnesota DHS Enterprise Systems Modernization	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~			+
Program Mont and Support																											
DHS Enterprise System Modernization Mobilization																											-
Mobilization of DHS Enterprise-wide Systems Modernization																				_							
Mobilize DHS Enterprise-wide System Modernization																											+
Determine Procurement Strategy															_		_					_					+
Enterprise Architecture and Solution Delivery Methods and																											+
Standards Development																											
Technical Assessment of MAXIS and PRISM Financials Reuse																											
and Replatform Option																											_
Conduct Consultation with Tribes																											_
Conduct Consultation with Public																											_
Develop Business Case Benefit Targets																											_
Alignment with MMIS Roadmap																											_
DHS Modernization Procurement																											
Services and Resources Procurement Process																											_
Run External Team Resources Procurement Process																											_
Software Procurement Process																											_
Run Supplemental Application Software Procurement Process																											
Run Supplemental Technical Software Procurement Process					-																						
Infrastructure Procurement Process																											
Run Technology Infrastructure Procurement Process																											
DHS Modernization Technology Infrastructure Acquisition and																											
Team and Development Environment Acquisition and																											_
Deployment																											
Development Environment Servers Acquire & Install																						_					+
Production Infrastructure Acquisition and Deployment																											
System/Integration Testing Servers Acquire & Install																											
UAT Environment Servers Acquire & Install																											+
Training Servers Acquire & Install																											+
Production Hosting Servers Acquire & Install																											+
Recovery Licenses - PROD Acquire & Install																											+
Recovery Licenses - DEV / TEST / UAT / TRAIN Acquire &																											+
Install																											
DHS Modernization Software Package Acquisition and Deployment																											
Technical Component Software Product Acquisition and Deployment																											
Acquisition and Implementation of Oracle 11Gg Licenses - PROD																											
Acquisition and Implementation of Oracle 11Gg Licenses - DEV / TEST / UAT / TRAIN																											
Acquisition and Implementation of Websphere AS licenses- PROD																											
Acquisition and Implementation of Websphere AS licenses- DEV / TEST / UAT / TRAIN																											
Acquisition and Implementation of Websphere ESB licenses- PROD																											
Acquisition and Implementation of Websphere ESB licenses- DEV / TEST / UAT / TRAIN																											
Acquisition and Implementation of Websphere Portal - PROD																											
Acquisition and Implementation of Websphere Portal - DEV / TEST / UAT / TRAIN																											T
Acquisition and Implementation of B2B Gateway BB																											
Acquisition and Implementation of Unified Communications BB																											
Acquisition and Implementation of Operating System (Red Hat Linux)										Γ																╞	1
Acquisition and Implementation of VMWare Suite	F			F		T		F		t												H					+

	Q	UΑ	R1	ΓEF	RL	ΥI	MF	PLE	ΞM	IEN	IT/	ATI	0	N S	C	HEI	Dι	JLE	- (	FIS	C.	AL	Y	EA	RS	)	
		20	14			20	15			20	16			20 <sup>.</sup>	17			201	8			20 <sup>-</sup>	19		2	202	0
																									Т	Т	
	ğ	Q2	Q3	<b>Q</b> 4	õ	02	<b>0</b> 3	Q4	õ	02	Q3	<b>Q</b> 4	δ	02	З З	6	ğ	6	<b>0</b> 3	<b>8</b>	ð	<b>0</b> 2	ß	<b>6</b>	56	N C	30
NAME	14	14	14	14	15	15	15	15	16	16	16	16	17	17	17	; 4	18	18	18	18	19	19	19	19	38	2 2	3 2
Acquisition and Implementation of Privacy and Security BB																											
Acquisition and Implementation of Development Environment																										T	
Business Application Software Product Acquisition and																										+	+
Deployment																									_		
Human Services COTS (Curam) Selection and Acquisition																											
Compliance Tracking SW Selection and Acquisition																									$\square$	┶	$\square$
Grants Mgmt SW Selection and Acquisition																									$\perp$	$\perp$	
Contract Management SW Selection and Acquisition																									$\perp$	$\perp$	
Marketing and Outreach SW Selection and Acquisition																									_		$\downarrow$
DHS Modernization Enterprise-wide Management																									_		$\downarrow$
DHS Modernization Enterprise-wide Management																									$\perp$	$\perp$	
DHS Enterprise-wide Management																									$\perp$	$\perp$	
Communications and Change Mgmt Support																									$\perp$		
Architecture Integration																									$\perp$	$\perp$	
Independent Validation and Verification																											
Portfolio Gate Reviews																											
Architecture Gate Reviews																									$\perp$	$\perp$	
Benefits Tracking and Realization																											
Mobilization of integration teams																											
Delivery Team Training - Methods, Standards, Software																											
Solution Delivery Teams - Attendance at Methods, Standards																											
Program Expanse Management																									+	+	+
Project Team Facilities Provision																										-	+
				_	-	┢					_			_	_		_	_	_	_	_	_	_		+	+	+
Supplies Provision				_	_	-								_	_	_		-	-	_	_					-	+
Integrated Eligibility Modernization																									+	+	+
Integrated Eligibility Modernization Delivery Release 2 -																									-	╈	
Requirements, Gap Analysis and Logical Architecture																									-	╈	
Specification - Integrated Eligibility R2 Requirements Definition & Solution Design for Integrated																_	_	_		_					+	╋	+
Eligibility - Medicaid Improvements																											
Implementation Planning - Integrated Eligibility R2																										T	
Detailed Impl & Rollout Plan, Business Case Update - IES R2																										T	
Design Customer Experience using UX Stds																										T	
Application Component Build/ Configure/ Test - Integrated Eligibility R2																										T	
Detailed Design, Bild/Configure & Implement Integrated																									-	+	+ +
Eligibility - Medicaid Improvements																									_	+	+
External Systems Integration - Integrated Eligibility R2	_																								_	+	+
County Client Databases adapter to from DHS MPI Integration																									+	+	+
County Financial Transactions adapter to-from new DHS																									+	+	+
County Document Management adapter to-from new DHS																									_	_	+
County 311 Systems adapter to-from new DHS system																									_	_	+
SMI adapter to-from new DHS system Integration																									_	_	
Current MMIS adapter to-from new DHS system Integration																									_	_	+
SWIF I adapter to-from new DHS system Integration																									+	+	$\downarrow \downarrow$
SOS (Phoenix) adapter to-from new DHS system Integration										$\square$						$ \rightarrow$									+	+	+
MSOP (Avatar) adapter to-trom new DHS system Integration										$\square$						+	_	_						_	+	+	$+ \downarrow$
Hederal Govt Hub adapter to-from new DHS system Integration																								-	$\downarrow$	+	$\downarrow \downarrow$
MAXIS adapter to-from new DHS IESr2 - Medicaid Integration																									+	+	$\downarrow \downarrow$
Data Conversion - Integrated Eligibility R2	L																	_							+	+	$\square$
MAXIS Medicaid Data Load to new DHS System																									$\downarrow$	+	$\downarrow \downarrow$
Manual Cleanup of Legacy data - MAXIS Medicaid to Integrated Eligibility																									$\downarrow$	$\downarrow$	
Production Support Readiness - Integrated Eligibility																											
Define System Support Organizational Requirements										ΙĨ		I		F						ſ		Ē		ſ			]

	Q	UA	R1	ΓEI	٦L	ΥI	MI	۶LI	ΕN	IEN	NT.	AT	0	N S	SC	ΗE	DL	JL	E (	F١	SC	AL	Y	EA	RS	)	
		20	14			20	15			20	16			20	17			20	18			20	19			202	0
				_				_				-		•		-				_			-	_			
NAME	4Q1	4Q2	4Q3	4Q4	5Q1	502	503	5Q4	6Q1	602	6Q3	6Q4	7Q1	7Q2	7Q3	7Q4	8Q1	8Q2	8Q3	8Q4	9Q1	9Q2	9Q3	9Q4	ğ		004
Acquire System Support Resources	-	1	1	1	1	-	-	-	-	-	-	1	1	1	1	-	1	1	1	1	1	1	1	1	2	2 0	1 0
Rollout - Integrated Eligibility R2																										+	
Operations and Support Documentation and Training -										ľ																-	
Integrated Eligibility R2																											
Rollout to Service Delivery Partners - Integrated Eligibility R2																											
Integrated Eligibility Modernization Delivery Release 3 - SNAP &																										+	
Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R3																											
Requirements Definition & Solution Design for Integrated Eligibility - SNAP & Cash																											
Implementation Planning - Integrated Eligibility R3																											
Detailed Impl & Rollout Plan & Business Case Update IES R3																											
Application Component Build/ Configure/ Test - Integrated Eligibility R3																											
Detailed Design, Bild/Configure & Implement Integrated Eligibility - SNAP & Cash																											
External Integration and Conversion - Integrated Eligibility R3 MAXIS adapter to-from new DHS IESr3 - SNAP & Cash																										$\mp$	
Integration																											
MAXIS SNAP & Cash Data Load to new DHS System																											
Manual Cleanup of Legacy data - MAXIS SNAP & Cash to Integrated Eligibility																											
Rollout - Integrated Eligibility R3																											
Operations and Support Documentation and Training - Integrated Eligibility R3																											
Rollout to Service Delivery Partners - Integrated Eligibility R3																											
Integrated Eligibility Modernization Delivery Release 4 - Child Care																											
Requirements, Gap Analysis and Logical Architecture																											
Requirements Definition & Solution Design for Integrated Eligibility - Child Care																											
Implementation Planning - Integrated Eligibility R4																											
Update Roadmap Plan and Estimates for IES R2																											
Application Component Build/ Configure/ Test - Integrated																										$\perp$	
Detailed Design, Bild/Configure & Implement Integrated Eligibility - Child Care																											
External Integration and Conversion - Integrated Eligibility R4																											
MAXIS Child Care Data Load to new DHS System																											
Manual Cleanup of Legacy data - MAXIS Child Care to Integrated Eligibility																											
Rollout - Integrated Eligibility R4																										$\perp$	
Operations and Support Documentation and Training - Integrated Eligibility R4																											
Rollout to Service Delivery Partners - Integrated Eligibility R4																											
Decommission MAXIS																										_	
Decommission MAXIS																										+	+
Improvements																										$\perp$	
Specification - Integrated Eligibility R5																										$\perp$	
Requirements Definition & Solution Design for Integrated	1																										
Implementation Planning - Integrated Eligibility R5		-		-		$\vdash$					$\vdash$							-	-					$\vdash$	+	+	+
Detailed Impl & Rollout Plan & Business Case Update IES R5								-																Π		╋	$\uparrow$
Application Component Build/ Configure/ Test - Integrated Eligibility R5	F		-				-					$\square$												H		╉	
Detailed Design, Bild/Configure & Implement Integrated Eligibility - IES Improvements																										╡	$\top$
Rollout - Integrated Eligibility R5	İ																									+	+

	Q	UA	R	ΓEF	RL	ΥI	MI	PLI	EM	IEN	NT،	AT	0	N S	SC	HE	DL	JLI	Ε(	F١	SC.	AL	Y	EA	RS	)	
		20	14			20	15			20	16			20	17			20	18			20	19			2020	)
																										Т	T
	ğ	t02	tQ3	tQ4	ğ	5Q2	<u>i</u> 303	04 04	ğ	3Q2	3 Q 3	3Q4	ğ	7Q2	7Q3	7Q4	3Q1	3Q2	3Q3	3Q4	a1	9Q2	<b>0</b> 3	9Q4	ğ	303	004
NAME	1	1	1	1	15	1	15	1	16	16	16	16	1	17	17	11	18	18	18	18	19	19	19	19	3	5 V	50
Integrated Eligibility R5																											
Rollout to Service Delivery Partners - Integrated Eligibility R5																											
Long-term Services & Support Programs Modernization																											
Long-term Services & Support Service Delivery - Basic																											
Requirements, Gap Analysis and Logical Architecture																										1	
Specification -LTSS - Basic	_																									_	
Requirements Definition & Solution Design for Long-term																											
Implementation Planning - LTSS - Basic												-														+	
Detailed Impl & Rollout Plan, Business Case Update - Long-												-														+	
term Services & Supports R1								L																		_	
Application Component Build/ Configure/ Test - Long-term Services & Support Service - Basic																											
Detailed Design, Bild/Configure & Implement Long-term Services & Supports - Basic																											
External Integration & Data Load - LTSS - Basic																											
SSIS adapter to-from new DHS HCP - R1 Integration																											
SSIS LTSS Data Load to new DHS System																											
Manual Cleanup of Legacy data - SSIS to new LTSS R1																											
Rollout - LTSS - Basic																											
Operations and Support Documentation and Training - Long-																											
Rollout to Service Delivery Partners - Long-term Services &																										+	
Long-term Services & Support Service Delivery - Enhanced		-										-														+	
Requirements, Gap Analysis and Logical Architecture	-											-														+	
Specification - LTSS - Enhanced																											
Requirements Definition & Solution Design for Long-term Services & Supports - Enhanced																											
Implementation Planning - LTSS - Enhanced																											
Detailed Impl & Rollout Plan, Business Case Update - Long-																											
Application Component Build/ Configure/ Test - LTSS -	F																									+	+
																									_	_	-
Services & Supports - Enhanced																											
External Integration & Data Load - LTSS - Enhanced																											
SSIS adapter to-from new DHS HCP - R2 Integration																											
Manual Cleanup of Legacy data - SSIS to new LTSS R2																											
Rollout - LTSS - Enhanced																										$\perp$	
Operations and Support Documentation and Training - Long- term Services & Supports - R2																											
Rollout to Service Delivery Partners -Long-term Services &																										-	
Child Support Modernization																										-	
Child Support Delivery Release 1 - Basic																											
Requirements, Gap Analysis and Logical Architecture																											
Specification - Child Support R1	_																									_	_
Basic																											
Implementation Planning - Child Support R1	_																									_	
Detailed Impl & Rollout Plan, Business Case Update - Child																											
Application Component Build/ Configure/ Test - Child Support	Ē																									1	T
Detailed Design, Bild/Configure & Implement Child Support -	F	-			-	-	-																		╡	╈	$\parallel$
External Systems Integration - Child Support R1		-		$\vdash$		$\vdash$		-										$\vdash$		$\vdash$	$\vdash$	_			+	+	+
Court Systems adapter to-from new DHS system Integration	F	╞	$\square$		-		-	$\vdash$		$\vdash$				$\square$											╡	╈	Н
Data Conversion - Child Support		-		$\vdash$	-	-	-											$\vdash$	-	$\vdash$	$\vdash$				+	+	+
PRISM Data Load to new DHS System		$\vdash$	$\vdash$		-	$\vdash$	-	1	-	1				$\vdash$					-	$\vdash$			_		+	+	+

	Q	UA	R1	ΓEF	RL	ΥI	MF	PLE	ΞM	IEN	JT.	AT	0	N S	SC	ΗE	D	JL	Ε (	FI	SC	AL	Y	EA	RS	)	
		20	14			20	15			20	16			20	17			20	18			20	19			2020	)
																										Т	
	ð	02	<b>0</b> 3	Q4	õ	Q2	03	Q4	ğ	02	<b>3</b> 3	Q4	õ	Q2	Q3	Q4	ğ	02	33	<b>6</b> 4	ğ	Q2	Q3	<b>Q4</b>	ð	03	Q4
NAME	14	14	14	14	15	15	15	15	16	16	16	16	;	17	17	17	18	18	18	18	19	19	19	19	20	20	20
Manual Cleanup of Legacy data - PRISM to Child Support	_																									_	
Production Support Readiness - Child Support	_											_														_	
Support R1																											
Rollout - Child Support R1																										+	+
Rollout to Service Delivery Partners - Child Support R1																										+	+
Decommission PRISM																										_	
Decommission PRISM	-																									-	
Child Support Delivery Release 2 - Enhanced	-																									-	
Requirements, Gap Analysis and Logical Architecture																											
Specification - Child Support R2																											
Requirements Definition & Solution Design for Child Support -																											
Enhanced																			_	_						_	
Implementation Planning - Child Support R2	-														_											—	+
Support R2																											
Application Component Build/ Configure/ Test - Child Support																										+	+
Detailed Design, Bild/Configure & Implement Child Support -																										+	
Enhanced																											
Rollout - Child Support R2																											
Operations and Support Documentation and Training - Child																											
Support R2																										_	
Rollout to Service Delivery Partners - Child Support R2																											
Child Welfare Modernization																										+	+
Child Welfare Delivery Release 1 - Basic	_																										
Requirements, Gap Analysis and Logical Architecture																											
Requirements Definition & Solution Design for Child Welfare -																											
Basic	-																									+	
Detailed level & Dellevet Dian During and Constant Ladets Child	-																								_	+	+
Welfare R1																											
Application Component Build/ Configure/ Test - Child Welfare																			-	-						+	+
Detailed Design, Bild/Configure & Implement, Child Welfare -	-																		-	-						+	+
Basic																											
External Systems Integration - Child Welfare R1																											
Workforce1 adapter to-from new DHS system Integration																											
Data Conversion - Child Welfare																											
SSIS Child Welfare Data Load to new DHS System	-																									-	
Manual Conversion of Legacy data - SSIS to Child Welfare																										-	-
Production Support Pondinoss - Child Wolfaro																			-	-					_	+	+
Operations and Support Documentation and Training - Child	-																		_	_						+	-
	-																									—	+
Rollout - Child Welfare R1	_																									_	
Rollout to Service Delivery Partners - Child Welfare R1																											
Decommission SSIS																											
Decommission SSIS																											
Child Welfare Delivery Release 2 - Enhanced																											
Requirements, Gap Analysis and Logical Architecture																											
Requirements Definition & Solution Design for Child Welfare -																											
Enhanced																				_						_	
Implementation Planning - Child Welfare R2	_																			_						_	
Detailed Impl & Rollout Plan, Business Case Update - Child																											
Application Component Build/ Configure/ Test - Child Welfare																									_	_	+
Detailed Design Bild/Configure & Implement Child Wolfere	-																	_		_						+	-
Enhanced																											
Rollout - Child Welfare R2	F							H		H															$\neg$	+	+
Operations and Support Documentation and Training - Child																									$\uparrow$	$\top$	+
Rollout to Service Delivery Partners - Child Welfare R2	1															$\square$								$\square$	$\neg$	+	+
Modernization of Other Smaller DHS Programs	-	-	-		-		-	$\vdash$	-	$\vdash$	-	$\square$		$\square$		$\square$										+	+ +
Other DHS Programs Delivery		-	-					$\square$		$\square$															$\neg$	+	+ +
Requirements, Gap Analysis and Logical Architecture		-	-	$\square$	-	$\square$	-	$\square$		$\square$				H		$\square$									$\neg$	+	+ +

	Q	UA	R1	TEF	RĽ	ΥI	MF	٩LE	ΞM	IEN	١T	ATI	0	N S	C	IEI	Dι	JLE	. (I	FIS	C	۹L	Y	EAI	RS)	)	
		20	14			20	15			20	16			201	17			201	8			201	19		2	2020	)
	4Q1	4Q2	4Q3	4Q4	5Q1	502	5Q3	5Q4	ŝQ1	6Q2	6Q3	6Q4	ğ	702	703	204	g	802	803	8Q4	<sup>g</sup> G	902	903	904			004
NAME Requirements Definition & Solution Design for Other programs /	÷	1	1	4	1;	1	1;	1	7	1	1	1	-	-	-		ĩ	÷	Ë.	7	÷	-	÷	1	5 5	5	<b>N</b>
functions																											
Implementation Planning - Other DHS Programs																											
Detailed Impl & Rollout Plan, Business Case Update - Other																											
Application Component Build/ Configure/ Test - Other DHS																											
Detailed Design, Bild/Configure & Implement Other programs /																											
functions																											
External Systems Integration - Other DHS Programs																											
EHR (EPIC - State HIE) adapter to-from new DHS system																											
Data Conversion - Other DHS Programs				_									_	_				_	-			_			-		
Other DHS Systems Data Load to new DHS System																											+
Manual Conversion of Legacy data - Legacy to Other DHS																											
Pgms																											
Production Support Readiness - Other DHS Programs																				_							
Operations and Support Documentation and Training - Other																											
Rollout - Other DHS Programs																											
Rollout to Service Delivery Partners - Other DHS Pgms																											
Decommission Other DHS Program Systems																											
Decommission Other DHS Systems																											
Business Intelligence Modernization																											
Business Intelligence Delivery - Capability Upgrade																											
Upgrade BI/DW Governance and Organization																											
Define BI Governance and Organizational Capability and Role																											
Acquire BI Resources																											
Train BI Resources																											
Upgrade BI/DW Platform																											
DW Storage Environment (DEV, TEST, TRAIN) Acquire &																											
DW Storage Environment (Production) Acquire & Install																											
Acquisition and Implementation of Data Warehouse - Exadata SW									-																		
Acquisition and Implementation of Business Intelligence / Analytics SW																											
Design DW Operational Data Store																											
Design DW Data Store																											
Enhanced Data Feeds from Legacy Systems to Renewed DW																											
Business Intelligence Delivery - IES																											
Business Intelligence Delivery - R01 - Add new IEr2																											
Requirements Definition & Solution Design for Analytics /																											
Detailed Design, Bild/Configure & Implement Analytics /																											
New Data Feeds from New IES R2 to new DW Integration																											
Business Intelligence Delivery - R02 - Add new IEr3																											
Requirements Definition & Solution Design for Analytics /																											
Detailed Design, Bild/Configure & Implement Analytics /																									_		_
New Data Feeds from New IES R3 to new DW Integration																				_				_	_		
Business Intelligence Delivery - R03 - Add new IEr4																				_				_	_		
Requirements Deminition & Solution Design for Analytics /																				_				_			_
New Data Fanda from New IEC D4 to new DW Internetion										_				_								_			_	_	_
New Data Feeds from New IES R4 to new DW Integration													_							-				-	-		+
Business intelligence Delivery - R04 - Add new IEIS	-																			_				_	_	_	+
Detailed Design Bild/Configure & Implement Analytics /																				_				_	-	-	_
New Data Feeds from New IES R5 to new DW Integration											_									-				-	-		+
Business Intelligence Delivery - LTSS																									+		+
Business Intelligence Delivery - 2133	-																							-	-		+
Requirements Definition & Solution Design for Analytics /	-					$\vdash$						$\vdash$			┥	+	┥	+	┥	$\dashv$	┥		-	$\dashv$	+	+	+
Reporting - LTSS Basic																											
Detailed Design, Bild/Configure & Implement Analytics / Reporting - LTSS Basic																											
New Data Feeds from New LTSS to new DW - R1 Integration																T				T				T	T		T
Business Intelligence Delivery - R05 - Add new LTSSr2			H																						+	+	+

	Q	UA	R1	ΓEF	RL	ΥI	MF	PLE	ΞM	IEN	<b>IT</b>	ATI	0	N S	Cl	HEI	DL	JLE	Ξ(	FIS	SC.	AL	Y	EA	RS	)	
		20	14			20	15			20	16			201	7			20	18			20	19		1	202(	)
																									Т	Т	T
	5	<b>Q2</b>	Q3	Q4	ð	<b>Q2</b>	Q3	Q4	õ	<b>Q2</b>	<b>0</b> 3	<b>Q</b>	õ	02	<b>0</b> 3	8	б	<b>0</b> 2	Q3	<b>Q</b> 4	õ	Q2	Q3	<b>Q</b> 4	5	303	Q4
NAME	4	14	14	14	15	15	15	15	16	16	16	16	17	17	17	; 1	18	18	18	18	19	19	19	19	20	202	20
Requirements Definition & Solution Design for Analytics /																											
Detailed Design Bild/Configure & Implement Analytics /	+							-									-								$\rightarrow$	+	+
Reporting - LTSS Enhanced																											
Now Data Foods from New LTSS to new DW _ D2 Integration	1																										
New Data Feeds from New LTSS to new DW - RZ Integration																											
Business Intelligence Delivery - Child Support																											
Business Intelligence Delivery - R06 - Add new CSr2																											
Requirements Definition & Solution Design for Analytics /																											
Reporting - Child Support Basic	-																								_	+	+
Reporting - Child Support Basic																											
New Data Feeds from New CS R1 to new DW Integration	1																			_					-	-	+
Business Intelligence Delivery - R07 - Add new CSr2	t -																									+	
Requirements Definition & Solution Design for Analytics /	1																									+	
Reporting - Child Support Enhanced																											
Detailed Design, Bild/Configure & Implement Analytics /																											
Reporting - Child Support Enhanced	<u> </u>																								_	_	
New Data Feeds from New CS R2 to new DW Integration																										╇	
Business Intelligence Delivery - Child Welfare																										╇	
Business Intelligence Delivery - R08 - Add new CWr1																										╇	
Requirements Definition & Solution Design for Analytics /																											
Detailed Design Bild/Configure & Implement Analytics /	+														-												+
Reporting - Child Welfare Basic																											
New Data Feeds from New CW R1 to new DW Integration	1																										
Business Intelligence Delivery - R09 - Add new CWr2																											
Requirements Definition & Solution Design for Analytics /																											
Reporting - Child Welfare Enhanced																										$\perp$	
Detailed Design, Bild/Configure & Implement Analytics /																											
New Data Feeds from New CW R2 to new DW/ Integration	+															_	-	-									+
Business Intelligence Delivery - Other Programs	-																								_	+	+
Business Intelligence Delivery - R10 - Add new Other	-																		_						-	-	+
Requirements Definition & Solution Design for Analytics /	1							-																			+
Reporting - Other Programs																											
Detailed Design, Bild/Configure & Implement Analytics /																											
Reporting - Other Programs																		_								╇	
New Data Feeds from New Other Programs to new DW																		_								╇	
Policy and Process Simplification																										_	
Financial Mgmt Policy and Process Simplification																									_	_	
Financial Mgmt Policy and Process Simplification																										╇	
Design Simplified Financial Mgmt Policy																										╇	
Design Simplified Financial Mgmt Process																										_	
Other Policy and Process Simplification - Placeholder																									_	_	
Other Policy and Process Simplification - Placeholder				_																					_	_	_
Design Simplified Other Policies - Placeholder	<u> </u>																								_	_	
Design Simplified Other Processes - Placeholder	_																								_	_	_
Information Governance & Protection Improvement																									_	_	+
Information Governance & Standards Improvement																									_	_	
Information Architecture and Governance Design &																											
Define Data Governance Standards	+																								-		+
Define Integration Strategy Design and Standards	┢				-	$\vdash$	-	$\vdash$	-	$\vdash$	-	$\vdash$	_	$\vdash$	┥	+	┥	+	_			$\vdash$	_	$\vdash$	+	+	+
Define Portal & User Experience Standards	$\vdash$					$\vdash$			-		-	┝┤				$\neg$		+			_			$\square$	+	+	+ -
Information Protoction and Charing Standards Improvement	F													H		$\uparrow$		1							+	+	+
Data Sharing Agroement & Protection Development	┡											Щ		Щ		_	_	_				Ц		$\square$	+	+	$\parallel$
Implementation																											
Privacy Impact Assessment	Γ													$\square$											T	╈	$\square$
Threat Risk Assessment	Γ																										$\Box$
Design Data Sharing Agreement Policy and Standards	Ι																								┓	Τ	
Implement Data Sharing Agreements	Γ																								_		$\square$
IT Function Modernization																	T				-						

	Q	UA	R1	ΓEF	RL	Y I	MI	PLE	ΕN	IEN	IT/	ATI	0	N S	C	IE	Dι	JLE	E (I	FIS	C/	AL	Y	EA	RS	)	
		20	14			20	15			20	16			20 <sup>.</sup>	17			201	8			20 <sup>-</sup>	19		1	2020	)
																									Т	T	
	ð	62	G	Q4	ð	62	ဗ္ဗ	Q4	ð	8	Q3	<b>5</b>	ð	<b>0</b> 2	ő	5 3	5	8	63	8	ð	<b>0</b> 2	ő	<b>6</b>	50	3 8	5
NAME	14(	14(	14(	14(	15(	15(	15(	15(	16	16	16	16	17(	17	17	17	18	18(	18(	18(	19(	19(	19(	19(	20	20	20
IT Function Modernization																											
IT Function Governance Improvement																											
Design IT Governance Improvements																											
IT Function Lean Process Design																											
Design Lean IT Processes																											
IT Function Organizational Improvement																											
Design IT Organizational Requirements																											
Acquire IT Staff																											
IT Systems Management Automation																											
Run IT System Management Procurement Process																											
Acquisition and Implementation of ITSM Software																											
Implement ITSM Automation																											
Contact Center Modernization																											
Contact Center Delivery																											
Contact Center Organization Design																											
Design Contact Center Processes																											
Design Contact Center Organization																											
Contact Center Implementation																											
Acquire Contact Center Staff																											
Train Contact Center Staff																											
Minnesota DHS Enterprise Systems Modernization	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~	~ -		~	~	~	~	~	~	~	~		~
Operations																											
Minnesota DHS Enterprise System - Ongoing																											
Operations																		_								-	
System Modernization Ongoing Operations - Intrastructure & Technical Components																											
Infrastructure & Hosting Operations																											
Production Hosting Servers Operation																										t	
UAT Environment Servers Operation																											
System/Integration Testing Servers Operation																									Ŧ		
Development Environment Servers Operation																											
Training Servers Operation																											
DW Storage Environment (Production) Operation																		-		-		_				Ŧ	
DW Storage Environment (DEV_TEST_TRAIN) Operation																											
Recovery Licenses - PROD Operation																									Ŧ		
																										T	
Recovery Licenses - DEV / TEST / UAT / TRAIN Operation																											
Business Applications' Licenses																											
Human Services COTS (Curam) Support																											
Compliance Tracking SW Support																											
Grants Mgmt SW Support																											
Contract Management SW Support																											
Marketing and Outreach SW Support																											
Technical Components Operations and Support																											
Oracle 11Gg Licenses - PROD Operation																											
Oracle 11Gg Licenses - DEV / TEST / UAT / TRAIN Operation																											
Websphere AS licenses- PROD Operation																										T	
Websphere AS licenses- DEV / TEST / UAT / TRAIN Operation																											
Websphere ESB licenses- PROD Operation																										T	
Websphere ESB licenses- DEV / TEST / UAT / TRAIN																									T	T	
Websphere Portal - PROD Operation	$\vdash$	┢	-	$\square$																					+		
Websphere Portal - DEV / TEST / HAT / TRAIN Operation	$\vdash$	-														+									╉	+	
B2B Gateway BB Operation	$\vdash$	-		$\vdash$																					╉	+	
Unified Communications BB Operation	$\vdash$	$\vdash$		$\square$																					+	+	
Operating System (Red Hat Linux) Operation	$\vdash$	-		$\vdash$																					╉	+	
VMWare Suite Operation	$\vdash$	┢	-	$\vdash$																					╉		
Privacy and Security BB Operation	$\vdash$	$\vdash$		$\square$																					+	+	
ITSM Software Operation	$\vdash$																										

	Q	UA	NR1	ΓEI	RL	Y I.	M	PL	E١	١EI	NT	AT	10	N S	SC	HE	D	JL	E (	FI	sc	AL	. Y	EA	R	S)	
		20	14			20	)15			20	016			20	17			20	18			20	19			202	20
	ĝ	4Q2	<u>403</u>	4Q4	ğ	5Q2	503	5Q4	ğ	02 02	<u>s</u> 303	8Q4	ZQ1	702	703	7Q4	ğ	ã02	ã	3Q4	ğ	902	<b>3</b> 03	9Q4	JQ1	02	õ 8
NAME	÷	7	÷	÷	1	Ŧ	7	4	7	7	7	7	-	-	1	1	1	<del>7</del>	<del>7</del>	<del>1</del>	7	7	1	1	2(	ñ	ñ ñ
Business Intelligence / Analytics SW Operation						┢		┢		+		┢			_		_										
Development Environment Software Operation						┢		┢																			
System Modernization Ongoing Operations and Support -																											
Business Systems																											
Applications Support & Maintenance																											
Integrated Eligibility - Medicaid Improvements Oper Support																											
Integrated Eligibility - SNAP & Cash Oper Support																											
Integrated Eligibility - Child Care Oper Support																											
Integrated Eligibility - IES Improvements Oper Support																											
Long-term Services & Supports - Basic Oper Support																											
Long-term Services & Supports - Enhanced Oper Support																											
Child Support - Basic Oper Support																											
Child Support - Enhanced Oper Support																											
Child Welfare - Basic Oper Support						Ĺ		L				Ĺ															
Child Welfare - Enhanced Oper Support	1					1		T	1	1	1		1														
Other programs / functions Oper Support																											
Analytics / Reporting - Medicare Improvements Oper Support																											
Analytics / Reporting - SNAP & Cash Oper Support								Γ																			
Analytics / Reporting - Child Care Oper Support																											
Analytics / Reporting - IES Improvements Oper Support																											
Analytics / Reporting - LTSS Basic Oper Support																											
Analytics / Reporting - LTSS Enhanced Oper Support																											
Analytics / Reporting - Child Support Basic Oper Support																											
Analytics / Reporting - Child Support Enhanced Oper Support																											
Analytics / Reporting - Child Welfare Basic Oper Support																											
Analytics / Reporting - Child Weifare Enhanced Oper Support																											
Analytics / Reporting - Other Programs Oper Support																											
Application Enhancements																											
Integrated Eligibility - Medicaid Improvements Enhancements																											
Integrated Eligibility - SNAP & Cash Enhancements																											
Integrated Eligibility - Child Care Enhancements																											
Integrated Eligibility - IES Improvements Enhancements																											
Long-term Services & Supports - Basic Enhancements																											
Long-term Services & Supports - Enhanced Enhancements																											
Child Support - Basic Enhancements																											
Child Support - Enhanced Enhancements																											
Child Welfare - Basic Enhancements																											
Child Welfare - Enhanced Enhancements																											
Other programs / functions Enhancements																											
Analytics / Reporting - Medicare Improvements Enhancements																											
Analytics / Reporting - SNAP & Cash Enhancements																											
Analytics / Reporting - Child Care Enhancements																											
Analytics / Reporting - IES Improvements Enhancements																											
Analytics / Reporting - LTSS Basic Enhancements																											
Analytics / Reporting - LTSS Enhanced Enhancements																											
Analytics / Reporting - Child Support Basic Enhancements																											
Analytics / Reporting - Child Support Enhanced Enhancements																											
Analytics / Reporting - Child Welfare Basic Enhancements																											
Analytics / Reporting - Child Welfare Enhanced Enhancements																											
Analytics / Reporting - Other Programs Enhancements	İ.	1		1		l	1	1	1	1	1	1	1								İ.						

	Q	UA	NR1	ΓEF	RL	YI	M	PL	ΕN	١E١	NT.	ATI	0	N S	SCI	HE	Dl	JLI	Ξ(	F١	SC	AL	. YI	EA	R٤	5)	
		20	14			20	)15			20	16			20	17		2018					20	19			202	0
									Ī																		
NAME	4 <u>0</u> 1	4Q2	4Q3	4Q4	5Q1	502	503	5Q4	6Q1	6Q2	603	6Q4	7Q1	7Q2	7 Q3	7Q4	8Q1	8Q2	ŝ	8Q4	9Q1	9Q2	9Q3	9Q4	ğ	003	No S
Application Integration Support and Enhancements	÷	÷	÷	÷	Ŧ	÷	÷	÷	÷	÷	÷	÷	-	1	-	-	<del>,</del>	7	~	7	<del>~</del>	7	7	-	Ñ	<u> </u>	<u> </u>
County Client Databases adapter to-from DHS MPI Integration																			-								
Oper Support																											
County Financial Transactions adapter to-from new DHS																											
system Integration Oper Support										_																	
County Document Management adapter to-from new DHS																											
County 311 Systems adapter to-from new DHS system													_														
Integration Oper Support																											
SMI adapter to-from new DHS system Integration Oper Support																											
Current MMIS adapter to-from new DHS system Integration																										T	
SWIFT adapter to-from new DHS system Integration Oper								┢	┢	┢			_		_		_						_		_		
Support																											
SOS (Phoenix) adapter to-from new DHS system Integration																											
Oper Support		<u> </u>	_			<u> </u>																					4
MSOP (Avatar) adapter to-from new DHS system Integration						1																					
EHR (EPIC - State HIE) adapter to-from new DHS system	-	-	$\vdash$	$\vdash$	-	┝	F																			+	
Integration Oper Support						1	1	1	1	1																	
Workforce1 adapter to-from new DHS system Integration Oper																											
Support																											
Court Systems adapter to-from new DHS system Integration																											
Oper Support								-									_					_	_		_	+	
Oper Support																											
Enhanced Data Feeds from Legacy Systems to Renewed DW																											
Integration Oper Support																											
New Data Feeds from New IES R2 to new DW Integration Oper																											
Support								-			-		_				_					_	_		_	+	
Support																											
New Data Feeds from New IES R4 to new DW Integration Oper									1																		
Support																											
New Data Feeds from New IES R5 to new DW Integration Oper																											
New Data Feeds from New LTSS to new DW - R1 Integration								-	-										_							+	
Oper Support																											
New Data Feeds from New CS R1 to new DW Integration Oper																Π											
Support																											
New Data Feeds from New CS R2 to new DW Integration Oper																											
New Data Feeds from New CW R1 to new DW Integration Oper								-	-													-			_		
Support																											
New Data Feeds from New CW R2 to new DW Integration Oper																											
Support																											
New Data Feeds from New Other Programs to new DW																											
MAXIS adapter to-from new DHS IESr2 - Medicaid Integration																									_		
Oper Support																											
MAXIS adapter to-from new DHS IESr3 - SNAP & Cash																											
Integration Oper Support																											
SSIS adapter to-from new DHS HCP - R1 Integration Oper																											
SSIS adapter to-from new DHS HCP - R2 Integration Oper								-	-	-																+	
Support																											
New Data Feeds from New LTSS to new DW - R2 Integration																											
Oper Support																											
County Client Databases adapter to-from DHS MPI Integration						1																					
County Financial Transactions adapter to-from new DHS		<u> </u>	-	$\vdash$		╞																				-	Ŧ
system Integration Enhancements						1																					
County Document Management adapter to-from new DHS						l																					
system Integration Enhancements																											
County 311 Systems adapter to-from new DHS system						1																					
SMI adapter to-from new DHS system Integration	-	-	⊢	$\vdash$	-	┢																				+	
Enhancements						1																					

	Q	UA	R٦	ΓEF	RĽ	ΥI	MF	PLE	ΞM	IEN	١T	AT	0	N S	SCI	ΗE	Dl	JLI	Ε(	F١	SC.	AL	Y	EA	R۶	5)	
		20	14			20	15			20	16			20	17			20	18			20	19			202	20
	_			_				_				-		•		-		•		_				-			
NAME	4Q1	4Q2	403	4Q4	5Q1	502	503	5Q4	6Q1	6Q2	603	6Q4	7Q1	7Q2	20	7Q	8Q1	8Q2	80 80	8Q4	9Q	9Q2	9Q3	90	<u>o</u> o	00	öğ
Current MMIS adapter to-from new DHS system Integration	1	1	1	1	1	-	٢	1	1	1	1	-	1	-	-	-	7	7	1	-	1	1	7	1	2	2	
Enhancements																											
SWIFT adapter to-from new DHS system Integration																											
Enhancements																											
SOS (Phoenix) adapter to-from new DHS system Integration																											
Enhancements																											
MSOP (Avatar) adapter to-from new DHS system Integration																											
Enhancements																											
EHR (EPIC - State HIE) adapter to-from new DHS system																											
Integration Enhancements																											
Workforce1 adapter to-from new DHS system Integration																											
Enhancements																											
Court Systems adapter to-from new DHS system Integration																											
Enhancements																											
Federal Govt Hub adapter to-from new DHS system Integration																											
Enhancements																											
Enhanced Data Feeds from Legacy Systems to Renewed DW																											
Integration Enhancements																											
New Data Feeds from New IES R2 to new DW Integration																											
Enhancements																											
New Data Feeds from New IES R3 to new DW Integration																											
Enhancements																											
New Data Feeds from New IES R4 to new DW Integration																											
Enhancements																											
New Data Feeds from New IES R5 to new DW Integration																											
Enhancements																											
New Data Feeds from New LTSS to new DW - R1 Integration																											
Enhancements																											
New Data Feeds from New CS R1 to new DW Integration																											
Enhancements																											
New Data Feeds from New CS R2 to new DW Integration																											
Enhancements																											
New Data Feeds from New CW R1 to new DW Integration																											
Enhancements																											
New Data Feeds from New CW R2 to new DW Integration																											
Enhancements																											
New Data Feeds from New Other Programs to new DW																											
Integration Enhancements																											
MAXIS adapter to-from new DHS IESr2 - Medicaid Integration						1																					
Enhancements																											
MAXIS adapter to-from new DHS IESr3 - SNAP & Cash																											
Integration Enhancements																											

Lyl	ID	Initiative Name	Total External Resource Days	Total Internal Resource Days	Internal Business Resource Days	Internal IT Resource Days	TOTAL IMPLEMENT- ATION Work Days
1	ESM-D	Minnesota DHS Enterprise Systems	55,982	114,960	67,552	47,408	170,941
2	DP01	Modernization Derivery Minnesota DHS Enterprise System Modernization Program Momt and Support	9,121	13,241	8,157	5,084	22,362
3	1001	DHS Enterprise System Modernization Mobilization	615	880	320	560	1,495
4	P001	Mobilization of DHS Enterprise-wide Systems Modernization	615	880	320	560	1,495
5	EBU001	Mobilize DHS Enterprise-wide System Modernization	118	118	30	88	235
5	EBU037	Determine Procurement Strategy	25	25	5	20	50
5	EBU004	Enterprise Architecture and Solution Delivery Methods and Standards Development	150	160	15	145	310
5	EIT007	Technical Assessment of MAXIS and PRISM	115	155	23	133	270
5	EBU064	Conduct Consultation with Tribes	90	150	60	90	240
5	EBU065	Conduct Consultation with Public	45	105	60	45	150
5	EBU051	Develop Business Case Benefit Targets	50	150	120	30	200
5	EBU066	Alignment with MMIS Roadmap	23	18	8	10	40
3	1002	DHS Modernization Procurement	333	733	400	333	1,065
4	P009	Services and Resources Procurement Process	90	200	120	80	290
5	EIT015	Run External Team Resources Procurement Process	90	200	120	80	290
4	P010	Software Procurement Process	180	430	250	180	610
5	EIT013	Run Supplemental Application Software Procurement Process	113	243	140	103	355
5	EIT014	Run Supplemental Technical Software Procurement Process	68	188	110	78	255
4	P011	Infrastructure Procurement Process	63	103	30	73	165
5	EIT016	Run Technology Infrastructure Procurement Process	63	103	30	73	165
3	1003	DHS Modernization Technology Infrastructure Acquisition and Deployment	15	23	3	20	38
4	P013	Team and Development Environment Acquisition and Deployment	-	-	-	-	-
5	DIN004	Development Environment Servers Acquire & Install		-	-	-	-
4	P014	Production Infrastructure Acquisition and Deployment	15	23	3	20	38
5	DIN003	System/Integration Testing Servers Acquire & Install	3	9	-	9	12
5	DIN002	UAT Environment Servers Acquire & Install	-	-	-	-	-
5	DIN005	Training Servers Acquire & Install	-	-	-	-	-
5	DIN001	Production Hosting Servers Acquire & Install	12	14	3	11	26
5	DIN008	Recovery Licenses - PROD Acquire & Install	-	-	-	-	-
5	DIN009	Recovery Licenses - DEV / TEST / UAT / TRAIN Acquire & Install	-	-	-	-	-
3	1004	DHS Modernization Software Package Acquisition and Deployment	193	108	24	84	300
4	P017	Technical Component Software Product Acquisition and Deployment	49	49	9	41	99
5	DBB001	Acquisition and Implementation of Oracle 11Gg Licenses - PROD	6	6	1	5	12
5	DBB002	Acquisition and Implementation of Oracle 11Gg Licenses - DEV / TEST / UAT / TRAIN	6	6	1	5	12
5	DBB003	Acquisition and Implementation of Websphere AS licenses- PROD	3	3	1	3	6
5	DBB004	Acquisition and Implementation of Websphere AS	3	3	1	3	6

			Total External Resource	Total Internal Resource	Internal Business Resource	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
Lvl	ID	Initiative Name	Days	Days	Days	Days	Days
5	DBB005	Acquisition and Implementation of Websphere ESB licenses- PROD	-	-	-	-	-
5	DBB006	Acquisition and Implementation of Websphere ESB licenses- DEV / TEST / UAT / TRAIN	-	-	-	-	-
5	DBB007	Acquisition and Implementation of Websphere Portal · PROD	-	-	-	-	-
5	DBB008	Acquisition and Implementation of Websphere Portal - DEV / TEST / UAT / TRAIN	-	-	-	-	-
5	DBB009	Acquisition and Implementation of B2B Gateway BB	-	-	-	-	-
5	DBB010	Acquisition and Implementation of Unified Communications BB	-	-	-	-	-
5	DBB011	Acquisition and Implementation of Operating System (Red Hat Linux)	6	6	1	5	12
5	DBB012	Acquisition and Implementation of VMWare Suite	10	10	2	8	19
5	DBB013	Acquisition and Implementation of Privacy and Security BB	-	-	-	-	-
5	DBB017	Acquisition and Implementation of Development Environment Software	16	16	3	13	32
4	P018	Business Application Software Product Acquisition and Deployment	143	59	16	43	202
5	DCS001	Human Services COTS (Curam) Selection and Acquisition	36	15	4	11	50
5	DCS002	Compliance Tracking SW Selection and Acquisition	18	8	3	5	26
5	DCS003	Grants Mgmt SW Selection and Acquisition	36	15	4	11	50
5	DCS004	Contract Management SW Selection and Acquisition	36	15	4	11	50
5	DCS005	Marketing and Outreach SW Selection and Acquisition	18	8	3	5	26
3	1999	DHS Modernization Enterprise-wide Management	7,967	11,498	7,410	4,088	19,464
4	P197	DHS Modernization Enterprise-wide Management	6,744	9,600	6,660	2,940	16,344
5	EIT031	DHS Enterprise-wide Management	648	6,264	5,616	648	6,912
5	EBU050	Communications and Change Mgmt Support	972	324	324	-	1,296
5	EIT029	Architecture Integration	2,052	2,052	-	2,052	4,104
5	EBU017	Independent Validation and Verification	2,592	-	-	-	2,592
5	EBU052	Portfolio Gate Reviews	240	240	240	-	480
5	EBU053	Architecture Gate Reviews	240	240	-	240	480
5	EBU054	Benefits Tracking and Realization	-	480	480	-	480
4	P002	Mobilization of integration teams	1,223	1,898	750	1,148	3,120
5	EBU007	Software	660	660	75	585	1,320
5	EIT020	Solution Delivery Teams - Attendance at Methods, Standards and Product Training	563	1,238	675	563	1,800
4	P003	Program Expense Management	_		-	-	-
5	FBU014	Project Team Facilities Provision	-	-	-	-	-
5	EBU015	Travel Costs	-	-	-	-	-
5	EBU016	Supplies Provision	-	-	-	-	-
2	DP02	Integrated Eligibility Modernization	17.917	47.737	31,599	16.139	65.654
3	1005	Integrated Eligibility Modernization Delivery Release 2 - Medicaid Improvements	10,650	26,800	17,245	9,555	37,451
4	P021	Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R2	541	896	367	529	1,436
5	DAA001-2	Requirements Definition & Solution Design for Integrated Eligibility - Medicaid Improvements	541	896	367	529	1,436
4	P022	Implementation Planning - Integrated Eligibility R2	238	278	143	135	515

			Total External Resource	Total Internal Resource	Internal Business Resource	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
Lvl 5	ID EBU008	Initiative Name Detailed Impl & Rollout Plan, Business Case Update - IES R2	Days 128	Days 168	Days 83	Days 85	Days 295
5	EBU005	Design Customer Experience using UX Stds	110	110	60	50	220
4	P023	Application Component Build/ Configure/ Test - Integrated Eligibility R2	2,308	3,160	899	2,261	5,467
5	DAB001-2	Detailed Design, Bild/Configure & Implement Integrated Eligibility - Medicaid Improvements	2,308	3,160	899	2,261	5,467
4	P024	External Systems Integration - Integrated Eligibility R2	3,855	3,855	589	3,266	7,709
5	DSI001	County Client Databases adapter to-from DHS MPI Integration	60	60	9	51	119
5	DSI002	County Financial Transactions adapter to-from new DHS system Integration	444	444	68	376	888
5	DSI003	County Document Management adapter to-from new DHS system Integration	1,107	1,107	169	938	2,215
5	DSI004	County 311 Systems adapter to-from new DHS system Integration	-	-	-	-	-
5	DSI005	SMI adapter to-from new DHS system Integration	60	60	9	51	119
5	DSI006	Current MMIS adapter to-from new DHS system Integration	1,240	1,240	189	1,051	2,479
5	DSI007	SWIFT adapter to-from new DHS system Integration	472	472	72	400	944
5	DSI008	SOS (Phoenix) adapter to-from new DHS system Integration	119	119	19	100	237
5	DSI009	MSOP (Avatar) adapter to-from new DHS system Integration	119	119	19	100	237
5	DSI013	Federal Govt Hub adapter to-from new DHS system Integration	-	-	-	-	-
5	DSI025	MAXIS adapter to-from new DHS IESr2 - Medicaid Integration	236	236	36	200	472
4	P025	Data Conversion - Integrated Eligibility R2	2,800	17,552	14,682	2,870	20,352
5	CWP001	MAXIS Medicaid Data Load to new DHS System	2,800	3,808	938	2,870	6,608
5	EBU013	Manual Cleanup of Legacy data - MAXIS Medicaid to Integrated Eligibility	-	13,744	13,744	-	13,744
4	P026	Production Support Readiness - Integrated Eligibility	110	90	40	50	200
5	EBU011	Define System Support Organizational Requirements	60	40	10	30	100
5	EBU012	Acquire System Support Resources	50	50	30	20	100
4	P027	Rollout - Integrated Eligibility R2	800	971	526	445	1,771
5	EIT022	- Integrated Eligibility R2	115	374	34	340	489
5	EBU018	Eligibility R2	685	597	492	105	1,282
3	1006	3 - SNAP & Cash	2,183	13,079	11,308	1,771	15,262
4	P028	Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R3	206	342	140	202	549
5	DAA001-3	Requirements Definition & Solution Design for Integrated Eligibility - SNAP & Cash	206	342	140	202	549
4	P029	Implementation Planning - Integrated Eligibility R3	43	56	28	28	99
5	EBU039	Detailed Impl & Rollout Plan & Business Case Update IES R3	43	56	28	28	99
4	P030	Application Component Build/ Configure/ Test - Integrated Eligibility R3	880	1,205	343	862	2,084
5	DAB001-3	Detailed Design, Bild/Configure & Implement Integrated Eligibility - SNAP & Cash	880	1,205	343	862	2,084

			Total External Resource	Total Internal Resource	Internal Business Resource	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
Lvl	ID	Initiative Name	Days	Days	Days	Days	Days
4	P031	External Integration and Conversion - Integrated	387	10,697	10,333	365	11,084
5	DSI026	MAXIS adapter to-from new DHS IESr3 - SNAP & Cash Integration	178	178	28	151	356
5	CWP005	MAXIS SNAP & Cash Data Load to new DHS System	209	284	70	214	493
5	EBU055	Manual Cleanup of Legacy data - MAXIS SNAP & Cash to Integrated Eligibility	-	10,235	10,235	-	10,235
4	P032	Rollout - Integrated Eligibility R3	668	779	464	315	1,447
5	EIT035	Operations and Support Documentation and Training - Integrated Eligibility R3	75	230	20	210	305
5	EBU040	Rollout to Service Delivery Partners - Integrated Eligibility R3	593	549	444	105	1,142
3	1007	Integrated Eligibility Modernization Delivery Release 4 - Child Care	2,764	4,577	1,942	2,635	7,341
4	P019	Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R4	410	680	279	402	1,091
5	DAA001-4	Requirements Definition & Solution Design for Integrated Eligibility - Child Care	410	680	279	402	1,091
4	P033	Implementation Planning - Integrated Eligibility R4	51	63	29	34	113
5	EBU038	Update Roadmap Plan and Estimates for IES R2	51	63	29	34	113
4	P034	Application Component Build/ Configure/ Test - Integrated Eligibility R4	1,752	2,398	681	1,717	4,150
5	DAB001-4	Detailed Design, Bild/Configure & Implement Integrated Eligibility - Child Care	1,752	2,398	681	1,717	4,150
4	P035	External Integration and Conversion - Integrated Eligibility R4	76	769	691	78	845
5	CWP006	MAXIS Child Care Data Load to new DHS System	76	104	26	78	180
5	EBU056	Manual Cleanup of Legacy data - MAXIS Child Care to Integrated Eligibility	-	665	665	-	665
4	P036	Rollout - Integrated Eligibility R4	391	502	242	260	893
5	EIT017	Operations and Support Documentation and Training - Integrated Eligibility R4	65	220	20	200	285
5	EBU058	Rollout to Service Delivery Partners - Integrated Eligibility R4	326	282	222	60	608
4	P020	Decommission MAXIS	85	165	20	145	250
5	EII005	Decommission MAXIS	85	165	20	145	250
3	1008	5 - IES Improvements	2,319	3,281	1,105	2,177	5,600
4	P037	Requirements, Gap Analysis and Logical Architecture Specification - Integrated Eligibility R5	372	616	252	364	989
5	DAA001-5	Requirements Definition & Solution Design for Integrated Eligibility - IES Improvements	372	616	252	364	989
4	P038	Implementation Planning - Integrated Eligibility R5	128	168	83	85	295
5	EBU057	Detailed Impl & Rollout Plan & Business Case Update IES R5	128	168	83	85	295
4	P039	Application Component Build/ Configure/ Test - Integrated Eligibility R5	1,589	2,175	618	1,557	3,765
5	DAB001-5	Detailed Design, Bild/Configure & Implement Integrated Eligibility - IES Improvements	1,589	2,175	618	1,557	3,765
4	P040	Rollout - Integrated Eligibility R5	230	322	152	170	552
5	EIT018	Operations and Support Documentation and Training - Integrated Eligibility R5	50	154	14	140	204

11	15	Initiativo Namo	Total External Resource Days	Total Internal Resource	Internal Business Resource Dave	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
L۷I 5	ID EBU059	Rollout to Service Delivery Partners - Integrated	180	Days 168	Days 138	30 Days	348
2	DP03	Long-term Services & Support Programs Modernization	4,978	11,335	6,875	4,460	16,314
3	1009	Long-term Services & Support Service Delivery - Basic	2,249	6,900	4,841	2,060	9,149
4	P055	Requirements, Gap Analysis and Logical Architecture Specification -I TSS - Basic	259	430	177	253	690
5	DAA010-1	Requirements Definition & Solution Design for Long- term Services & Supports - Basic	259	430	177	253	690
4	P056	Implementation Planning - LTSS - Basic	44	57	28	30	102
5	EBU045	Detailed Impl & Rollout Plan, Business Case Update -	44	57	28	30	102
4	P057	Application Component Build/ Configure/ Test - Long- term Services & Support Service - Basic	1,105	1,514	431	1,083	2,619
5	DAB010-1	Detailed Design, Bild/Configure & Implement Long- term Services & Supports - Basic	1,105	1,514	431	1,083	2,619
4	P058	External Integration & Data Load - LTSS - Basic	365	4 283	3 926	357	4 648
5	DSI027	SSIS adapter to-from new DHS HCP - R1 Integration	107	107	16	91	213
5	CWP007	SSIS LTSS Data Load to new DHS System	259	352	86	266	611
5	EBU060	Manual Cleanup of Legacy data - SSIS to new LTSS	-	3,824	3,824	-	3,824
4	P059	Rollout - LTSS - Basic	475	616	279	337	1,091
5	EIT025	Operations and Support Documentation and Training - Long-term Services & Supports - R1	76	283	27	256	359
5	EBU024	Rollout to Service Delivery Partners - Long-term Services & Supports - R1	399	333	252	81	732
3	1014	Long-term Services & Support Service Delivery - Enhanced	2,729	4,435	2,034	2,401	7,164
4	P075	Requirements, Gap Analysis and Logical Architecture Specification - LTSS - Enhanced	423	701	288	414	1,125
5	DAA010-2	Requirements Definition & Solution Design for Long- term Services & Supports - Enhanced	423	701	288	414	1,125
4	P076	Implementation Planning - LTSS - Enhanced	68	87	42	45	155
5	EBU061	Detailed Impl & Rollout Plan, Business Case Update - Long-term Services & Supports R2	68	87	42	45	155
4	P077	Application Component Build/ Configure/ Test - LTSS - Enhanced	1,805	2,472	703	1,769	4,276
5	DAB010-2	Detailed Design, Bild/Configure & Implement Long- term Services & Supports - Enhanced	1,805	2,472	703	1,769	4,276
4	P078	External Integration & Data Load - LTSS - Enhanced	72	837	777	60	908
5	DSI028	SSIS adapter to-from new DHS HCP - R2 Integration	72	72	12	60	143
5	EBU062	Manual Cleanup of Legacy data - SSIS to new LTSS R2	-	765	765	-	765
4	P079	Rollout - LTSS - Enhanced	362	339	225	114	701
5	EIT075	Operations and Support Documentation and Training - Long-term Services & Supports - R2	60	76	16	60	136
5	EBU063	Rollout to Service Delivery Partners -Long-term Services & Supports - R2	302	263	209	54	565
2	DP04	Child Support Modernization	4,854	14,039	9,641	4,398	18,893
3	P041	Requirements, Gap Analysis and Logical	4,075	12,968 707	9,213	3,755	17,043
5	DAA003-1	Requirements Definition & Solution Design for Child Support - Basic	427	707	290	417	1,133

			Total External Resource	Total Internal Resource	Internal Business Resource	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
Lvi 4	ID P042	Initiative Name	Days 97	Days	Days 62	Days 65	Days 224
5	EBU009	Detailed Impl & Rollout Plan, Business Case Update -	97	127	62	65	224
4	P043	Application Component Build/ Configure/ Test - Child	1,821	2,492	708	1,784	4,313
5	DAB003-1	Detailed Design, Bild/Configure & Implement Child Support - Basic	1,821	2,492	708	1,784	4,313
4	P044	External Systems Integration - Child Support R1	178	178	28	151	356
5	DSI012	Court Systems adapter to-from new DHS system Integration	178	178	28	151	356
4	P045	Data Conversion - Child Support	789	8,480	7,671	809	9,269
5	CWP002	PRISM Data Load to new DHS System	789	1,074	265	809	1,863
5	EBU019	Manual Cleanup of Legacy data - PRISM to Child Support	-	7,406	7,406	-	7,406
4	P046	Production Support Readiness - Child Support	100	307	27	280	407
5	EIT023	- Child Support R1	100	307	27	280	407
4	P047	Rollout - Child Support R1	579	513	408	105	1,092
5	EBU022	Rollout to Service Delivery Partners - Child Support R1	579	513	408	105	1,092
4	P048	Decommission PRISM	85	165	20	145	250
5	EIT036	Decommission PRISM	85	165	20	145	250
3	1011	Child Support Delivery Release 2 - Enhanced	779	1,071	428	643	1,850
4	P050	Requirements, Gap Analysis and Logical Architecture Specification - Child Support R2	92	153	63	90	245
5	DAA003-2	Requirements Definition & Solution Design for Child Support - Enhanced	92	153	63	90	245
4	P051	Implementation Planning - Child Support R2	23	28	14	15	51
5	EBU042	Detailed Impl & Rollout Plan, Business Case Update - Child Support R2	23	28	14	15	51
4	P052	Application Component Build/ Configure/ Test - Child Support R2	391	535	152	383	926
5	DAB003-2	Detailed Design, Bild/Configure & Implement Child Support - Enhanced	391	535	152	383	926
4	P054	Rollout - Child Support R2	273	355	200	155	628
5	EIT039	Operations and Support Documentation and Training - Child Support R2	50	154	14	140	204
5	EBU043	Rollout to Service Delivery Partners - Child Support R2	223	201	186	15	424
2	DP05	Child Welfare Modernization	6,151	9,315	3,687	5,629	15,466
3	1012	Child Welfare Delivery Release 1 - Basic	5,339	8,203	3,236	4,967	13,542
4	P060	Requirements, Gap Analysis and Logical Architecture Specification - Child Welfare R1	652	1,080	442	638	1,732
5	DAA004-1	Requirements Definition & Solution Design for Child Welfare - Basic	652	1,080	442	638	1,732
4	P061	Implementation Planning - Child Welfare R1	109	142	69	73	251
5	EBU006	Detailed Impl & Rollout Plan, Business Case Update - Child Welfare R1	109	142	69	73	251
4	P062	Application Component Build/ Configure/ Test - Child Welfare R1	2,784	3,812	1,085	2,728	6,596
5	DAB004-1	Detailed Design, Bild/Configure & Implement Child Welfare - Basic	2,784	3,812	1,085	2,728	6,596
4	P063	External Systems Integration - Child Welfare R1	119	119	19	100	237
5	DSI011	Workforce1 adapter to-from new DHS system	119	119	19	100	237
4	P064	Data Conversion - Child Welfare	876	2,029	1,131	898	2,905

Lvi	ID	Initiative Name	Total External Resource Days	Total Internal Resource Days	Internal Business Resource Days	Internal IT Resource Days	TOTAL IMPLEMENT- ATION Work Days
5	CWP003	SSIS Child Welfare Data Load to new DHS System	876	1,192	294	898	2,068
5	EBU020	Manual Conversion of Legacy data - SSIS to Child Welfare	-	837	837	-	837
4	P066	Production Support Readiness - Child Welfare	100	307	27	280	407
5	EIT024	Operations and Support Documentation and Training - Child Welfare R1	100	307	27	280	407
4	P067	Rollout - Child Welfare R1	615	549	444	105	1,164
5	EBU023	Rollout to Service Delivery Partners - Child Welfare R1	615	549	444	105	1,164
4	P068	Decommission SSIS	85	165	20	145	250
5	EIT037	Decommission SSIS	85	165	20	145	250
3	1013	Child Welfare Delivery Release 2 - Enhanced	811	1,112	451	662	1,924
4	P070	Requirements, Gap Analysis and Logical Architecture Specification - Child Welfare R2	96	159	66	94	256
5	DAA004-2	Requirements Definition & Solution Design for Child Welfare - Enhanced	96	159	66	94	256
4	P071	Implementation Planning - Child Welfare R2	23	28	14	15	51
5	EBU010	Detailed Impl & Rollout Plan, Business Case Update - Child Welfare R2	23	28	14	15	51
4	P072	Application Component Build/ Configure/ Test - Child Welfare R2	407	558	160	399	965
5	DAB004-2	Detailed Design, Bild/Configure & Implement Child Welfare - Enhanced	407	558	160	399	965
4	P074	Rollout - Child Welfare R2	285	367	212	155	652
5	EIT040	Operations and Support Documentation and Training - Child Welfare R2	50	154	14	140	204
5	EBU044	Rollout to Service Delivery Partners - Child Welfare R2	235	213	198	15	448
2	DP06	Modernization of Other Smaller DHS Programs	4,898	7,694	3,061	4,634	12,592
3	1015	Other DHS Programs Delivery	4,898	7,694	3,061	4,634	12,592
4	P080	Requirements, Gap Analysis and Logical Architecture Specification - Other DHS Programs	583	966	396	571	1,550
5	DAA005	Requirements Definition & Solution Design for Other programs / functions	583	966	396	571	1,550
4	P081	Implementation Planning - Other DHS Programs	128	168	83	85	295
5	EBU041	Detailed Impl & Rollout Plan, Business Case Update - Other DHS Programs	128	168	83	85	295
4	P082	Application Component Build/ Configure/ Test - Other DHS Programs	2,490	3,410	971	2,440	5,901
5	DAB005	Detailed Design, Bild/Configure & Implement Other programs / functions	2,490	3,410	971	2,440	5,901
4	P083	External Systems Integration - Other DHS Programs	119	119	19	100	237
5	DSI010	EHR (EPIC - State HIE) adapter to-from new DHS system Integration	119	119	19	100	237
4	P084	Data Conversion - Other DHS Programs	876	2,130	1,232	898	3,006
5	CWP004	Other DHS Systems Data Load to new DHS System	876	1,192	294	898	2,068
5	EBU021	Manual Conversion of Legacy data - Legacy to Other DHS Pgms	-	938	938	-	938
4	P086	Production Support Readiness - Other DHS Programs	100	307	27	280	407
5	EIT026	Operations and Support Documentation and Training - Other DHS Pgms	100	307	27	280	407
4	P087	Rollout - Other DHS Programs	518	430	315	115	947
5	EBU025	Rollout to Service Delivery Partners - Other DHS Pgms	518	430	315	115	947

			Total External Resource	Total Internal Resource	Internal Business Resource	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
Lvl	ID	Initiative Name	Days	Days	Days	Days	Days
4	P088	Decommission Other DHS Program Systems	85	165	20	145	250
5	EIT006	Decommission Other DHS Systems	85	165	20	145	250
2	DP07	Business Intelligence Modernization	6,599	8,898	2,683	6,215	15,497
3	1017	Business Intelligence Delivery - Capability Upgrade	697	878	315	563	1,575
4	P006	Upgrade BI/DW Governance and Organization	115	135	75	60	250
5	EBU026	Define BI Governance and Organizational Capability and Role Requirements	65	85	55	30	150
5	EBU027	Acquire BI Resources	50	50	20	30	100
5	EBU028	Train BI Resources	-	-	-	-	-
4	P007	Upgrade BI/DW Platform	582	743	240	503	1,325
5	DIN007	DW Storage Environment (DEV, TEST, TRAIN) Acquire & Install	3	9	-	9	12
5	DIN006	DW Storage Environment (Production) Acquire & Install	15	22	3	19	37
5	DBB015	Acquisition and Implementation of Data Warehouse - Exadata SW	-	-	-	-	-
5	DBB016	Acquisition and Implementation of Business Intelligence / Analytics SW	-	-	-	-	-
5	EIT003	Design DW Operational Data Store	180	231	60	171	411
5	EIT004	Design DW Data Store	149	245	141	104	393
5	DSI014	Enhanced Data Feeds from Legacy Systems to Renewed DW Integration	236	236	36	200	472
3	1018	Business Intelligence Delivery - IES	3,171	4,354	1,301	3,053	7,526
4	P090	Business Intelligence Delivery - R01 - Add new IEr2	2,188	3,017	905	2,112	5,204
5	DAA006-1	Requirements Definition & Solution Design for Analytics / Reporting - Medicare Improvements	371	615	252	363	986
5	DAB006-1	Detailed Design, Bild/Configure & Implement Analytics / Reporting - Medicare Improvements	1,581	2,166	617	1,549	3,747
5	DSI015	New Data Feeds from New IES R2 to new DW Integration	236	236	36	200	472
4	P091	Business Intelligence Delivery - R02 - Add new IEr3	337	455	134	322	793
5	DAA006-2	Requirements Definition & Solution Design for Analytics / Reporting - SNAP & Cash	52	86	36	51	139
5	DAB006-2	Detailed Design, Bild/Configure & Implement Analytics / Reporting - SNAP & Cash	226	310	89	221	535
5	DSI016	New Data Feeds from New IES R3 to new DW Integration	60	60	9	51	119
4	P092	Business Intelligence Delivery - R03 - Add new IEr4	337	455	134	322	793
5	DAA006-3	Requirements Definition & Solution Design for Analytics / Reporting - Child Care	52	86	36	51	139
5	DAB006-3	Detailed Design, Bild/Configure & Implement Analytics / Reporting - Child Care	226	310	89	221	535
5	DSI017	New Data Feeds from New IES R4 to new DW Integration	60	60	9	51	119
4	P093	Business Intelligence Delivery - R04 - Add new IEr5	309	427	130	297	735
5	DAA006-4	Requirements Definition & Solution Design for Analytics / Reporting - IES Improvements	52	86	36	51	139
5	DAB006-4	Detailed Design, Bild/Configure & Implement Analytics / Reporting - IES Improvements	226	310	89	221	535
5	DSI018	New Data Feeds from New IES R5 to new DW	31	31	5	26	62

Lvi	ID	Initiative Name	Total External Resource Days	Total Internal Resource Davs	Internal Business Resource Days	Internal IT Resource Days	TOTAL IMPLEMENT- ATION Work Days
3	1019	Business Intelligence Delivery - LTSS	642	866	253	613	1,508
4	P094	Business Intelligence Delivery - R05 - Add new LTSSr1	152	197	54	143	348
5	DAA006- 5a	Requirements Definition & Solution Design for Analytics / Reporting - LTSS Basic	20	33	13	20	52
5	DAB006- 5a	Detailed Design, Bild/Configure & Implement Analytics / Reporting - LTSS Basic	85	117	34	83	202
5	DSI019	New Data Feeds from New LTSS to new DW - R1 Integration	47	47	7	40	94
4	P100	Business Intelligence Delivery - R05 - Add new LTSSr2	490	669	199	470	1,159
5	DAA006- 5b	Requirements Definition & Solution Design for Analytics / Reporting - LTSS Enhanced	79	131	54	77	210
5	DAB006- 5b	Detailed Design, Bild/Configure & Implement Analytics / Reporting - LTSS Enhanced	340	467	134	333	806
5	DSI029	New Data Feeds from New LTSS to new DW - R2 Integration	72	72	12	60	143
3	1020	Business Intelligence Delivery - Child Support	846	1,143	336	807	1,989
4	P095	Business Intelligence Delivery - R06 - Add new CSr2	537	716	206	510	1,253
5	DAA006-6	Requirements Definition & Solution Design for Analytics / Reporting - Child Support Basic	79	131	54	77	210
5	DAB006-6	Detailed Design, Bild/Configure & Implement Analytics / Reporting - Child Support Basic	340	467	134	333	806
5	DSI020	New Data Feeds from New CS R1 to new DW Integration	119	119	19	100	237
4	P096	Business Intelligence Delivery - R07 - Add new CSr2	309	427	130	297	735
5	DAA006-7	Requirements Definition & Solution Design for Analytics / Reporting - Child Support Enhanced	52	86	36	51	139
5	DAB006-7	Detailed Design, Bild/Configure & Implement Analytics / Reporting - Child Support Enhanced	226	310	89	221	535
5	DSI021	New Data Feeds from New CS R2 to new DW Integration	31	31	5	26	62
3	1021	Business Intelligence Delivery - Child Welfare	846	1,143	336	807	1,989
4	P097	Business Intelligence Delivery - R08 - Add new CWr1	537	716	206	510	1,253
5	DAA006-8	Requirements Definition & Solution Design for Analytics / Reporting - Child Welfare Basic	79	131	54	77	210
5	DAB006-8	Detailed Design, Bild/Configure & Implement Analytics / Reporting - Child Welfare Basic	340	467	134	333	806
5	DSI022	New Data Feeds from New CW R1 to new DW Integration	119	119	19	100	237
4	P098	Business Intelligence Delivery - R09 - Add new CWr2	309	427	130	297	735
5	DAA006-9	Requirements Definition & Solution Design for Analytics / Reporting - Child Welfare Enhanced	52	86	36	51	139
5	DAB006-9	Detailed Design, Bild/Configure & Implement Analytics / Reporting - Child Welfare Enhanced	226	310	89	221	535
5	DSI023	New Data Feeds from New CW R2 to new DW Integration	31	31	5	26	62
3	1022	Business Intelligence Delivery - Other Programs	396	514	143	371	911
4	P099	Business Intelligence Delivery - R10 - Add new Other	396	514	143	371	911
5	DAA006- 10	Requirements Definition & Solution Design for Analytics / Reporting - Other Programs	52	86	36	51	139

			Total External Resource	Total Internal Resource	Internal Business Resource	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
Lvl	ID	Initiative Name	Days	Days	Days	Days	Days
5	DAB006-	Detailed Design, Bild/Configure & Implement	226	310	89	221	535
Ŭ	10	Analytics / Reporting - Other Programs	220	510	03	221	555
5	DSI024	New Data Feeds from New Other Programs to new DW Integration	119	119	19	100	237
2	DP08	Policy and Process Simplification	336	1,190	994	196	1,525
3	1025	Financial Mgmt Policy and Process Simplification	148	178	100	78	325
4	P110	Financial Mgmt Policy and Process Simplification	148	178	100	78	325
5	EBU029	Design Simplified Financial Mgmt Policy	38	68	40	28	105
5	EBU030	Design Simplified Financial Mgmt Process	110	110	60	50	220
3	1026	Other Policy and Process Simplification - Placeholder	188	1,012	894	118	1,200
4	P111	Other Policy and Process Simplification - Placeholder	188	1,012	894	118	1,200
5	EBU031	Design Simplified Other Policies - Placeholder	50	442	442	-	492
5	EBU032	Design Simplified Other Processes - Placeholder	138	570	452	118	708
2	DP09	Information Governance & Protection Improvement	590	842	556	287	1,432
3	1029	Information Governance & Standards Improvement	342	460	307	153	801
4	P112	Information Architecture and Governance Design & Implementation	342	460	307	153	801
5	EIT010	Define Data Governance Standards	48	141	123	18	189
5	EIT011	Define Integration Strategy Design and Standards	96	121	40	81	216
5	EBU067	Define Portal & User Experience Standards	198	198	144	54	396
3	1030	Information Protection and Sharing Standards Improvement	249	383	249	134	631
4	P113	Data Sharing Agreement & Protection Development and Implementation	162	138	36	102	299
5	EIT008	Privacy Impact Assessment	108	84	36	48	192
5	EIT009	Threat Risk Assessment	54	54	-	54	107
5	EBU033	Design Data Sharing Agreement Policy and Standards	90	190	125	65	280
5	EBU034	Implement Data Sharing Agreements	84	300	300	-	384
2	DP10	IT Function Modernization	417	517	186	332	934
3	1031	IT Function Modernization	417	517	186	332	934
4	P114	IT Function Governance Improvement	25	35	25	10	60
5	EBU035	Design IT Governance Improvements	25	35	25	10	60
4	P115	IT Function Lean Process Design	150	120	15	105	270
5	EBU036	Design Lean IT Processes	150	120	15	105	270
4	P116	IT Function Organizational Improvement	110	90	40	50	200
5	EBU046	Design IT Organizational Requirements	60	40	10	30	100
5	EBU047	Acquire IT Staff	50	50	30	20	100
4	P117	IT Systems Management Automation	132	272	106	167	404
С -			60	190	90	106	202
5	DBB014	Acquisition and Implementation of ITSM Software	36	36	6	31	72
5	EI1012	Implement ITSM Automation	30	40	10	30	70
2	DP11	Contact Center Modernization	122	152	116	36	273
3	D149	Contact Center Delivery	122	152	116	36	273
4		Contact Center Organization Design	84	84	54	30	168
5	EBU002	Design Contact Center Processes	60	10	30	30	126
4	P110	Contact Center Implementation	24	10	10	-	42
-	FBU048	Acquire Contact Center Staff	19	54	54	- 0	72
5	EBU049	Train Contact Center Staff	20	14	<del>54</del> ۸	6	33
1	ESM-O	Minnesota DHS Enterprise Systems	3,536	361,126	2,323	358,803	364,661

			Total External Resource	Total Internal Resource	Internal Business Resource	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
Lvl	ID	Initiative Name	Days	Days	Days	Days	Days
2	OP01	Minnesota DHS Enterprise System - Ongoing	3,536	361,126	2,323	358,803	364,661
0	1000	System Modernization Ongoing Operations -	070	4.475		4 475	4 4 4 7
3	1036	Infrastructure & Technical Components	212	1,175	-	1,175	1,447
4	P201	Infrastructure & Hosting Operations	86	345	-	345	431
5	OIN001	Production Hosting Servers Operation	65	259	-	259	324
5	OIN002	UAT Environment Servers Operation	-	-	-	-	-
5	OIN003	System/Integration Testing Servers Operation	-	-	-	-	-
5	OIN004	Development Environment Servers Operation	-	-	-	-	-
5	OIN005	Training Servers Operation	-	-	-	-	-
5	OIN006	DW Storage Environment (Production) Operation	-	-	-	-	-
5	OIN007	Operation	11	43	-	43	54
5	ΟΙΝυυδ	Recovery Licenses - PROD Operation	11	43	-	43	54
5	OIN009	Operation	-	-	-	-	-
4	P202	Business Applications' Licenses	-	-	-	-	-
5	OCS001	Human Services COTS (Curam) Support	-	-	-	-	-
5	OCS002	Compliance Tracking SW Support	-	-	-	-	-
5	OCS003	Grants Mgmt SW Support	-	-	-	-	-
5	OCS004	Contract Management SW Support	-	-	-	-	-
5	OCS005	Marketing and Outreach SW Support	-	-	-	-	-
4	P203	Technical Components Operations and Support	186	830	-	830	1,016
5	OBB001	Oracle 11Gg Licenses - PROD Operation	22	97	-	97	119
5	OBB002	Oracle 11Gg Licenses - DEV / TEST / UAT / TRAIN Operation	11	48	-	48	59
5	OBB003	Websphere AS licenses- PROD Operation	22	97	-	97	119
5	OBB004	Websphere AS licenses- DEV / TEST / UAT / TRAIN Operation	11	48	-	48	59
5	OBB005	Websphere ESB licenses- PROD Operation	22	97	-	97	119
5	OBB006	Websphere ESB licenses- DEV / TEST / UAT / TRAIN Operation	11	48	-	48	59
5	OBB007	Websphere Portal - PROD Operation	11	48	-	48	59
5	OBB008	Websphere Portal - DEV / TEST / UAT / TRAIN Operation	11	48	-	48	59
5	OBB009	B2B Gateway BB Operation	6	29	-	29	35
5	OBB010	Unified Communications BB Operation	-	-	-	-	-
5	OBB011	Operating System (Red Hat Linux) Operation	11	48	-	48	59
5	OBB012	VMWare Suite Operation	6	29	-	29	35
5	OBB013	Privacy and Security BB Operation	6	29	-	29	35
5	OBB014	ITSM Software Operation	9	39	-	39	48
5	OBB015	Data Warehouse - Exadata SW Operation	11	48	-	48	59
5	OBB016	Business Intelligence / Analytics SW Operation	6	29	-	29	35
5	OBB017	Development Environment Software Operation	11	48	-	48	59
3	1037	Support - Business Systems	3,264	15,592	2,323	13,269	18,856
4	P205	Applications Support & Maintenance	1,031	4,640	516	4,124	5,671
5	OAC001-2	Integrated Eligibility - Medicaid Improvements Oper Support	174	785	87	698	959
5	OAC001-3	Integrated Eligibility - SNAP & Cash Oper Support	66	299	33	266	365
5	OAC001-4	Integrated Eligibility - Child Care Oper Support	132	596	66	530	728
5	OAC001-5	Integrated Eligibility - IES Improvements Oper Support	120	541	60	481	661

Lvi	ID	Initiative Name	Total External Resource Days	Total Internal Resource Days	Internal Business Resource Days	Internal IT Resource Days	TOTAL IMPLEMENT- ATION Work Days
5	OAC010-1	Long-term Services & Supports - Basic Oper Support	28	125	14	111	153
5	OAC010-2	Long-term Services & Supports - Enhanced Oper Support	-	-	-	-	-
5	OAC003-1	Child Support - Basic Oper Support	138	619	69	550	757
5	OAC003-2	Child Support - Enhanced Oper Support	16	71	8	63	87
5	OAC004-1	Child Welfare - Basic Oper Support	112	505	56	449	617
5	OAC004-2	Child Welfare - Enhanced Oper Support	16	74	8	66	90
5	OAC005	Other programs / functions Oper Support	100	452	50	402	552
5	OAC006-1	Analytics / Reporting - Medicare Improvements Oper Support	64	286	32	254	350
5	OAC006-2	Analytics / Reporting - SNAP & Cash Oper Support	9	42	5	37	51
5	OAC006-3	Analytics / Reporting - Child Care Oper Support	9	42	5	37	51
5	OAC006-4	Analytics / Reporting - IES Improvements Oper Support	9	42	5	37	51
5	OAC006- 5a	Analytics / Reporting - LTSS Basic Oper Support	2	10	1	9	12
5	OAC006- 5b	Analytics / Reporting - LTSS Enhanced Oper Support	-	-	-	-	-
5	OAC006-6	Analytics / Reporting - Child Support Basic Oper Support	9	38	4	34	47
5	OAC006-7	Analytics / Reporting - Child Support Enhanced Oper Support	6	25	3	22	31
5	OAC006-8	Analytics / Reporting - Child Welfare Basic Oper Support	9	38	4	34	47
5	OAC006-9	Analytics / Reporting - Child Welfare Enhanced Oper Support	6	25	3	22	31
5	OAC006- 10	Analytics / Reporting - Other Programs Oper Support	6	25	3	22	31
4	P206	Application Enhancements	1,808	9,042	1,807	7,235	10,850
5	EAC001-2	Integrated Eligibility - Medicaid Improvements Enhancements	232	1,162	232	930	1,394
5	EAC001-3	Integrated Eligibility - SNAP & Cash Enhancements	89	443	89	354	532
5	EAC001-4	Integrated Eligibility - Child Care Enhancements	176	882	176	706	1,058
5	EAC001-5	Integrated Eligibility - IES Improvements Enhancements	160	801	160	641	961
5	EAC010-1	Long-term Services & Supports - Basic Enhancements	56	278	56	222	334
5	EAC010-2	Long-term Services & Supports - Enhanced Enhancements	-	-	-	-	-
5	EAC003-1	Child Support - Basic Enhancements	184	918	184	734	1,102
5	EAC003-2	Child Support - Enhanced Enhancements	39	197	39	158	236

LvI	ID	Initiative Name	Total External Resource Days	Total Internal Resource Days	Internal Business Resource Days	Internal IT Resource Days	TOTAL IMPLEMENT- ATION Work Days
5	EAC004-1	Child Welfare - Basic Enhancements	280	1,402	280	1,122	1,682
5	EAC004-2	Child Welfare - Enhanced Enhancements	41	205	41	164	246
5	EAC005	Other programs / functions Enhancements	251	1,254	251	1,003	1,505
5	EAC006-1	Analytics / Reporting - Medicare Improvements Enhancements	159	796	159	637	955
5	EAC006-2	Analytics / Reporting - SNAP & Cash Enhancements	23	114	23	91	137
5	EAC006-3	Analytics / Reporting - Child Care Enhancements	23	114	23	91	137
5	EAC006-4	Analytics / Reporting - IES Improvements Enhancements	23	114	23	91	137
5	EAC006- 5a	Analytics / Reporting - LTSS Basic Enhancements	4	21	4	17	25
5	EAC006- 5b	Analytics / Reporting - LTSS Enhanced Enhancements	-	-	-	-	-
5	EAC006-6	Analytics / Reporting - Child Support Basic Enhancements	17	85	17	68	102
5	EAC006-7	Analytics / Reporting - Child Support Enhanced Enhancements	11	57	11	46	68
5	EAC006-8	Analytics / Reporting - Child Welfare Basic Enhancements	17	85	17	68	102
5	EAC006-9	Analytics / Reporting - Child Welfare Enhanced Enhancements	11	57	11	46	68
5	EAC006- 10	Analytics / Reporting - Other Programs Enhancements	11	57	11	46	68
4	P207	Application Integration Support and Enhancements	424	1,910	-	1,910	2,334
5	OSI001	County Client Databases adapter to-from DHS MPI Integration Oper Support	2	10	-	10	12
5	OSI002	County Financial Transactions adapter to-from new DHS system Integration Oper Support	12	54	-	54	66
5	OSI003	DHS system Integration Oper Support	30	135	-	135	165
5	OSI004	County 311 Systems adapter to-from new DHS system Integration Oper Support	-	-	-	-	-
5	OSI005	SMI adapter to-from new DHS system Integration	2	10	-	10	12
5	OSI006	Current MMIS adapter to-from new DHS system Integration Oper Support	34	151	-	151	185
5	OSI007	SWIFT adapter to-from new DHS system Integration Oper Support	18	79	-	79	97
5	OSI008	SOS (Phoenix) adapter to-from new DHS system Integration Oper Support	4	20	-	20	24
5	OSI009	MSOP (Avatar) adapter to-from new DHS system Integration Oper Support	4	20	-	20	24
5	OSI010	EHR (EPIC - State HIE) adapter to-from new DHS system Integration Oper Support	4	20	-	20	24
5	OSI011	Workforce1 adapter to-from new DHS system Integration Oper Support	4	20	-	20	24
5	OSI012	Court Systems adapter to-from new DHS system Integration Oper Support	7	29	-	29	36
5	OSI013	Federal Govt Hub adapter to-from new DHS system Integration Oper Support	-	-	-	-	-

			Total External Resource	Total Internal Resource	Internal Business Resource	Internal IT Resource	TOTAL IMPLEMENT- ATION Work
Lvi	ID	Initiative Name	Days	Days	Days	Days	Days
5	OSI014	Ennanced Data Feeds from Legacy Systems to Renewed DW Integration Oper Support	9	39	-	39	48
		New Data Feeds from New IES R2 to new DW					
5	OSI015	Integration Oper Support	9	39	-	39	48
_		New Data Feeds from New IES R3 to new DW		10		10	
5	OSI016	Integration Oper Support	2	10	-	10	12
5	091017	New Data Feeds from New IES R4 to new DW	2	10	_	10	12
5	031017	Integration Oper Support	2	10		10	12
5	OSI018	New Data Feeds from New IES R5 to new DW	1	5	-	5	6
		Integration Oper Support					
5	OSI019	New Data Feeds from New LISS to new DW - R1	2	8	-	8	10
		New Data Feeds from New CS R1 to new DW					
5	OSI020	Integration Oper Support	4	20	-	20	24
_		New Data Feeds from New CS R2 to new DW		_		_	
5	OSI021	Integration Oper Support	1	5	-	5	6
5	051022	New Data Feeds from New CW R1 to new DW	1	20	_	20	24
5	001022	Integration Oper Support	4	20		20	24
5	OSI023	New Data Feeds from New CW R2 to new DW	1	5	-	5	6
		Integration Oper Support	-				
5	OSI024	New Data Feeds from New Other Programs to new	4	20	-	20	24
		MAXIS adapter to from new DHS IESr2 - Medicaid					
5	OSI025	Integration Oper Support	9	39	-	39	48
		MAXIS adapter to-from new DHS IESr3 - SNAP &					
5	OSI026	Cash Integration Oper Support	7	29	-	29	36
F	001007	SSIS adapter to-from new DHS HCP - R1 Integration	4	10		10	22
Э	051027	Oper Support	4	18	-	18	22
5	051028	SSIS adapter to-from new DHS HCP - R2 Integration	3	12	_	12	15
Ŭ	001020	Oper Support	0	12		12	10
5	OSI029	New Data Feeds from New LTSS to new DW - R2	3	12	-	12	15
		Integration Oper Support					
5	ESI001	Integration Enhancements	2	9	-	9	11
		County Financial Transactions adapter to-from new					
5	ESI002	DHS system Integration Enhancements	15	68	-	68	83
-	E01000	County Document Management adapter to-from new	20	100		100	207
Э	ES1003	DHS system Integration Enhancements	30	169	-	169	207
5	ESI004	County 311 Systems adapter to-from new DHS	-	-	-	-	-
	20.001	system Integration Enhancements					
5	ESI005	SMI adapter to-from new DHS system Integration	2	9	-	9	11
		Ennancements					
5	ESI006	Integration Enhancements	84	378	-	378	462
		SWIFT adapter to-from new DHS system Integration					
5	ESI007	Enhancements	16	72	-	72	88
Б		SOS (Phoenix) adapter to-from new DHS system	1	18	_	18	22
5	201000	Integration Enhancements		10	_	10	22
5	ESI009	MSOP (Avatar) adapter to-from new DHS system	4	18	-	18	22
		Integration Enhancements		_			
5	ESI010	EHR (EPIC - State HIE) adapter to-from new DHS	4	18	-	18	22
		Workforce1 adapter to-from new DHS system					
5	ESI011	Integration Enhancements	4	18	-	18	22
-	501040	Court Systems adapter to-from new DHS system					
5	ESI012	Integration Enhancements	6	27	-	27	33
5	ESI013	Federal Govt Hub adapter to-from new DHS system	_	_	_	_	
Ľ		Integration Enhancements	_	_	-	_	_
5	ESI014	Enhanced Data Feeds from Legacy Systems to	8	36	-	36	44
	1	Renewed DW Integration Enhancements	-	_		-	

Lvi	ID	Initiative Name	Total External Resource Days	Total Internal Resource Days	Internal Business Resource Days	Internal IT Resource Days	TOTAL IMPLEMENT- ATION Work Days
5	ESI015	New Data Feeds from New IES R2 to new DW Integration Enhancements	8	36	-	36	44
5	ESI016	New Data Feeds from New IES R3 to new DW Integration Enhancements	2	9	-	9	11
5	ESI017	New Data Feeds from New IES R4 to new DW Integration Enhancements	2	9	-	9	11
5	ESI018	New Data Feeds from New IES R5 to new DW Integration Enhancements	1	5	-	5	6
5	ESI019	New Data Feeds from New LTSS to new DW - R1 Integration Enhancements	2	7	-	7	9
5	ESI020	New Data Feeds from New CS R1 to new DW Integration Enhancements	4	18	-	18	22
5	ESI021	New Data Feeds from New CS R2 to new DW Integration Enhancements	1	5	-	5	6
5	ESI022	New Data Feeds from New CW R1 to new DW Integration Enhancements	4	18	-	18	22
5	ESI023	New Data Feeds from New CW R2 to new DW Integration Enhancements	1	5	-	5	6
5	ESI024	New Data Feeds from New Other Programs to new DW Integration Enhancements	4	18	-	18	22
5	ESI025	MAXIS adapter to-from new DHS IESr2 - Medicaid Integration Enhancements	8	36	-	36	44
5	ESI026	MAXIS adapter to-from new DHS IESr3 - SNAP & Cash Integration Enhancements	6	27	-	27	33

	RESOURCE RATE ASSUMPTIONS	PER DIEM RATE - EXTERNAL RESOURCES	<u>% External</u>	<u>exter</u> <u>hou</u> <u>rat</u>	r <u>nal</u> rly e	Internal Daily Rate	In H	<u>ternal</u> ourly	<u>Internal</u> <u>Resource</u> <u>Salary</u>	<u>Salary plus</u> <u>fringe</u>	<u>Salary plus</u> fringe plus overhead	Source of Assumptions
IB.PGM	Business Program Manageme	\$ 3,000	50%	\$ 3	575	\$ 675	\$	84	97,150	128,238	145,707	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IB.PM	Business Project Managemen	\$ 2,500	50%	\$ 3	13	\$ 594	\$	74	83,902	110,751	128,220	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IB.PC	Project Coordinator	\$ 1,600	50%	\$ 2	200	\$ 524	\$	66	72,572	95,795	113,264	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IB.ADM	Business Admin Support	\$ 800	0%	\$ 1	.00	\$ 275	\$	34	31,720	41,870	59,339	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IB.COM	Communications Analyst	\$ 1,500	50%	\$ 1	.88	\$ 524	\$	66	72,572	95,795	113,264	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IB.BUS	Business Rep Resource	\$ 1,500	0%	\$ 1	.88	\$ 491	\$	61	67,121	88,600	106,069	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IB.SME	Subject Matter Expert	\$ 2,800	80%	\$ 3	50	\$ 524	\$	66	72,572	95,795	113,264	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IB.TR	Trainer	\$ 1,500	100%	\$ 1	.88	\$ 399	\$	50	52,000	68,640	86,109	External rate based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others; Internal resource salary provided by Minnesota \$25 per hr x 2080 hrs
IB.PIA	Privacy Expert	\$ 2,500	100%	\$ 3	13	\$ 524	\$	66	72,574	95,798	113,267	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IB.CME	Change Mgmt Expert	\$ 2,400	100%	\$ 3	00	\$ 524	\$	66	72,572	95,795	113,264	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IT.SPM	IT Senior Project Management	\$ 2,200	50%	\$ 2	275	\$ 756	\$	94	110,397	145,724	163,193	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IT.PM	IT Project Management	\$ 1,400	50%	\$ 1	.75	\$ 680	\$	85	98,033	129,404	146,873	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IT.BA	Business Architect	1,860	50%	\$ 2	:33	\$ 615	\$	77	87,435	115,414	132,883	External daily rate based on Minnesota 902TS average business architect rate plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IT.BAN	Business Analyst	1,776	50%	\$ 2	22	500	\$	63	68,640	90,605	108,074	External daily rate based on Minnesota 902TS average process modelling rate plus 50%; Internal resource salary provided by Minnesota \$33 per hr x 2080 hrs
	RESOURCE RATE ASSUMPTIONS	PER DIEM RATE - EXTERNAL RESOURCES	<u>% External</u>	<u>external</u> hourly <u>rate</u>	Internal Daily Rate	<u>Internal</u> <u>Hourly</u>	<u>Internal</u> <u>Resource</u> <u>Salary</u>	<u>Salary plus</u> <u>fringe</u>	Salary plus fringe plus overhead	Source of Assumptions		
--------	---	---	-------------------	--	---------------------------	----------------------------------	---	-------------------------------------	--	--		
IT.AA	Application Architect	1,896	50%	\$ 237	\$ 615	\$77	87,435	115,414	132,883	External daily rate based on Minnesota 902TS average technical architect rate plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others		
IT.PA	Developer	1,176	50%	\$ 147	577	\$72	81,120	107,078	124,547	External daily rate based on Minnesota 902TS average Mainframe/mid-range application design and development rate plus 50%; Internal resource salary provided by Minnesota \$39 per hr x 2080 hrs		
IT.IA	Information Architect	1,848	50%	\$ 231	\$ 615	\$77	87,435	115,414	132,883	External daily rate based on Minnesota 902TS average information architect rate plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others		
IT.DAM	Data Analyst/Modeler/Administrat or	1,668	50%	\$ 209	\$ 362	\$ 45	45,925	60,621	78,090	External daily rate based on Minnesota 902TS average DB Design architect rate plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others		
IT.DBA	Database Administrator	1,524	50%	\$ 191	\$ 491	\$ 61	67,121	88,600	106,069	External daily rate based on Minnesota 902TS average DB Design administrator rate (Oracle) plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others		
IT.SEC	Security Architect	1,884	50%	\$ 236	\$ 621	\$78	88,318	116,580	134,049	External daily rate based on Minnesota 902TS average security architect rate plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others		
IT.TA	Technology Architect	1,896	50%	\$ 237	\$ 702	\$88	101,565	134,066	151,535	External daily rate based on Minnesota 902TS average technical architect rate plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others		
IT.NET	Network Analyst	\$ 1,400	50%	\$ 175	\$ 414	\$ 52	54,575	72,039	89,508	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others		

MN DHS Modernization Roadmap Appendix D - Estimating Assumptions - Resources and Rates

	RESOURCE RATE ASSUMPTIONS	PER DIEM RATE - EXTERNAL RESOURCES	<u>% External</u>	<u>external</u> hourly <u>rate</u>	Internal Daily Rate	<u>Internal</u> <u>Hourly</u>	<u>Internal</u> <u>Resource</u> <u>Salary</u>	<u>Salary plus</u> fringe	Salary plus fringe plus overhead	Source of Assumptions
IT.QA	QA Analyst	\$ 1,850	50%	\$ 231	\$ 486	\$ 61	66,238	87,434	104,903	KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IT.LIB	Documentation Administrator	1,212	0%	\$ 152	\$ 491	\$ 61	67,121	88,600	106,069	External daily rate based on Minnesota 902TS average Documentation specialist rate plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
IT.OSA	Operations/Support Analyst	1,104	0%	\$ 138	\$ 362	\$ 45	45,925	60,621	78,090	External daily rate based on Minnesota 902TS average Mainframe/mid-range operations rate plus 50%; internal cost based on KPMG experience with HHS Initiatives - Vermont, Rhode Island, Missouri, others
	Hours per day Days per month Days per year		8 18 216							

Benefits percentage	
(fringe)	32%
Overhead cost per FTE per	
vear	\$ 17,469

Overhead Cost Assumption is \$23,182 in year 1, and \$16041 ongoing. For a single annual overhead amount, we calculate a weighted average annual cost as 20% at the year 1 rate and 80% at the subsequent years rate.



MN DHS Modernization Roadmap Appendix D - Estimating Assumptions - Resources and Rates

RESOURCE RATE ASSUMPTIONS	PER DIEM RATE - EXTERNAL RESOURCES	<u>% External</u>	<u>external</u> <u>hourly</u> <u>rate</u>	Internal Daily Rate	<u>Internal</u> <u>Hourly</u>	<u>Internal</u> <u>Resource</u> <u>Salary</u>	<u>Salary plus</u> fringe	Salary plus fringe plus overhead	Source of Assumptions
------------------------------	---	-------------------	---	---------------------------	----------------------------------	---	------------------------------	--	-----------------------

The following Roles in the estimating model are made equivalent to the roles listed above as follows:

ID	Role name	Equiv ID
IT.SA	Systems Analyst	IT.BAN
IT.DAA	Data Administrator	IT.DAM
IT.SOL	Solution Architect	IT.AA
IT.ITSS	IT Support Supervisor	Not used
IT.MET	Methodologist	IT.BA
IB.OD	Organizational Designer	IB.SME
IB.LEG	Legal Expert (Lawyer)	IB.SME
IB.FIN	Financial Analyst	IB.SME
IB.ENG	Engineer	IB.SME
IB.BEN	Benefits Analyst	IB.SME
	Threat Risk Assessment	
IB.TRA	Expert	IB.SME

## Minnesota planning assumptions

Working hours per year	2080
Hours per day	8
Working Days per year	260

### **KPMG Planning assumptions - re FTEs**

days per year	365
weekends	104
vacation	15
statutory holidays	10
training days	5
admin days	15

NOTE	
Days available for project work - month	18
Days available for project work - year	216

## NOTE:

This assumption is intended to ensure that realistic allocations of resources are developed. The work effort estimates in the model do not include factors to account for time spent on non-project activities, hence we need to account for them as noted above.

When estimating internal resource costs, annual salary is divided by the assumed Days available for project work to determine an average cost per day. This is based on the assumption that the "non-productive" days (vacation etc.) are still paid for.

For external resources, the assumption is that "non-productive days" are already factored into the rates charged for project work, so only project work is paid for.

Rate estimates assume 216 working days per year, which translates to 1,728 productive hours. KPMG's assumption differs from DHS's common baseline, which is 2,080 productive hours per year.

	ity																							
Component	Priori	IES-R2	IES-R3	IES-R4	IES-R5	LTSS-R1	LTSS-R2	CS-R1	CS-R2	CW-R1	CW-R2	Other	BI-R1	BI-R2	BI-R3	BI-R4	BI-R5a	BI-R5b	BI-R6	BI-R7	BI-R8	BI-R9	BI-R10	TOTAL %
Business Application																								
Components																								
Program Management Components																								
Program Operations																								
Compliance Management	Μ				60%				30%		25%	15%												130%
Grants Management	L											100%												100%
Program Financial Reporting	Н												45%	10%	10%	10%		15%	15%	10%	15%	10%	10%	150%
Program Reporting	Н												45%	10%	10%	10%	5%	15%	15%	10%	15%	10%	10%	155%
Provider Certification and Licensing	М			50%		30%	30%			30%														140%
Provider and Contractor Information	Н			50%		30%	30%			30%														140%
Management																								
Quality Assurance	М				50%				40%		25%	10%												125%
Finance																								
Accounts Receivable	Н	60%			20%			10%	10%	10%	10%	10%												130%
Accounts Payable	Н	60%			20%			10%	10%	10%	10%	10%												130%
Financial Reporting	Н												45%	10%	10%	10%		15%	15%	10%	15%	10%	10%	150%
Program Oversight																								
Marketing and Outreach	L				100%							0%												100%
Performance Monitoring	Н												45%	10%	10%	10%	5%	15%	15%	10%	15%	10%	10%	155%
Policy and Oversight Management	L				70%				15%		15%	15%												115%
Program Planning and Management	Μ	40%	15%	15%	10%		15%	15%	5%	15%	5%	10%												145%
Service Delivery Components																								
Client Management																								
Client Information Management	Н	50%	10%	10%		10%		30%		30%		10%												150%
Client Transfer	Н	100%																						100%
Eligibility and Enrollment																								
Appeals Management	Μ				100%																			100%
Eligibility Determination	Н	40%	15%	15%	5%	15%	10%	10%	5%	20%	5%	15%												155%
Enrollment Management	Н	50%				10%	10%	25%		25%		15%												135%
Needs Assessment	Н	40%	10%	10%	10%	15%		10%	5%	25%	5%	10%												140%
Service Management																								
Case Management	Н	50%				20%		20%	5%	20%	5%	10%												130%
Caseload Management	Н	75%						10%		10%		20%												115%

	ity																							
Component	Prior	IES-R2	IES-R3	IES-R4	IES-R5	LTSS-R1	LTSS-R2	CS-R1	CS-R2	CW-R1	CW-R2	Other	BI-R1	BI-R2	BI-R3	BI-R4	BI-R5a	BI-R5b	BI-R6	BI-R7	BI-R8	BI-R9	BI-R10	TOTAL %
Claims Management	OOS																							0%
Clinical Management	00S																							0%
Complaint Management	L				100%																			100%
Funds Allocation	Н							100%																100%
Payment Calculation	Н	30%	20%	20%			20%			30%	10%	10%												140%
Payments, Collections & Recovery Management	Н	30%	20%	20%			20%	20%		20%		10%												140%
Service and Funding Approval	н			25%			45%			45%		10%												125%
Service Planning and Monitoring	Н			25%			45%			45%		10%												125%
Waitlist Management	Н			40%			40%			40%		10%												130%
<b>Business Management Components</b>	;																							
Corporate Services																								
Business Agreement Management	L											100%												100%
Contract Management	М			25%			40%			40%		10%												115%
Education and Training	OOS																							0%
Common Business Components																								
Collaboration																								
Business Integration	н	50%	10%	10%			20%	20%		20%		10%												140%
Communications Management	н	60%	20%	20%	5%		20%	10%	10%	10%	10%	10%												175%
Contact Center	н	75%				15%	10%	20%		20%														140%
Administration																								
User Administration	Н	75%				20%		10%		10%		10%												125%
Information Management																								
Document Management	М	75%					15%	15%		15%		10%												130%
Knowledge and FAQ Management	М											100%												100%
Master Data Management	Н												100%											100%
Metadata Management	н												100%											100%
Master Person Registry	н	60%				25%		25%		25%														135%
Records Management	М	60%				10%	20%	25%		25%														140%
Web Content Management	М	75%					15%	15%		15%		10%												130%
Workflow and Rules Management																								
Rules Management	Н	100%																						100%
Workflow Management	Н	100%																						100%

Component	Priority	IES-R2	IES-R3	IES-R4	IES-R5	LTSS-R1	LTSS-R2	CS-R1	CS-R2	CW-R1	CW-R2	Other	BI-R1	BI-R2	BI-R3	BI-R4	BI-R5a	BI-R5b	BI-R6	BI-R7	BI-R8	BI-R9	BI-R10	TOTAL %
Component Bundle		IES	IES	IES	IES	LTSS	LTSS	CS	CS	CW	CW	Other	BI	BI	BI	BI	BI	BI	BI	BI	BI	BI	BI	1
Component Bundle Release		IES-R2	IES-R3	IES-R4	IES-R5	LTSS-R1	LTSS-R2	CS-R1	CS-R2	CW-R1	CW-R2	Other	BI-R1	BI-R2	BI-R3	BI-R4	BI-R5a	BI-R5b	BI-R6	BI-R7	BI-R8	BI-R9	BI-R10	
TOTAL FPs by Release		6,821	1,135	2,255	2,066	1,640	2,183	2,453	527	3,857	522	2,806	2,205	369	369	369	149	553	553	369	553	369	369	
Weighted Effort		11,623	2,216	4,412	4,005	2,783	4,547	4,588	985	7,011	1,027	6,270	3,981	569	569	569	214	853	853	569	853	569	569	
Weighted Effort Per FP		1.704	1.952	1.957	1.939	1.697	2.083	1.870	1.869	1.818	1.967	2.234	1.805	1.542	1.542	1.542	1.436	1.542	1.542	1.542	1.542	1.542	1.542	

		Strategy (select a strategy from								
		"ApplStrategies"	% Legacy	% Reuse of	% Building		%	Adjusted		Effort Per
Component	FPs	list)	Reuse	New	Block	% Volume	Channels	FP	IT Effort	FP
Business Application										
Components										
Program Management Components										
Program Operations										
Compliance Management	484	Configure-Complex	0%	0%	0%	100%	100%	484	968	2.00
Grants Management	100	Configure-Complex	0%	0%	0%	100%	100%	100	200	2.00
Program Financial Reporting	701	Configure-Complex	0%	0%	0%	100%	100%	701	1,402	2.00
Program Reporting	1687	Configure-Simple	0%	0%	0%	100%	100%	1,687	1,687	1.00
Provider Certification and Licensing	389	Configure-Complex	0%	0%	0%	100%	100%	389	778	2.00
Provider and Contractor Information	996	Configure-Complex	0%	0%	0%	100%	100%	996	1,992	2.00
Management										
Quality Assurance	227	Configure-Complex	0%	0%	0%	100%	100%	227	454	2.00
Finance										
Accounts Receivable	0	None	0%	0%	0%	100%	100%	0	0	#DIV/0!
Accounts Payable	0	None	0%	0%	0%	100%	100%	0	0	#DIV/0!
Financial Reporting	0	None	0%	0%	0%	100%	100%	0	0	#DIV/0!
Program Oversight										
Marketing and Outreach	573	Configure-Complex	0%	0%	0%	100%	100%	573	1,146	2.00
Performance Monitoring	1298	Configure-Complex	0%	0%	0%	100%	100%	1,298	2,596	2.00
Policy and Oversight Management	177	Configure-Complex	0%	0%	0%	100%	100%	177	354	2.00
Program Planning and Management	93	Configure-Complex	0%	0%	0%	100%	100%	93	186	2.00
Service Delivery Components										
Client Management										
Client Information Management	1622	Configure-Simple	0%	0%	0%	100%	100%	1,622	1,622	1.00
Client Transfer	330	Configure-Simple	0%	0%	0%	100%	100%	330	330	1.00
Eligibility and Enrollment										
Appeals Management	261	Configure-Complex	0%	0%	0%	100%	100%	261	522	2.00
Eligibility Determination	1927	Configure-Complex	0%	0%	0%	100%	100%	1,927	3,854	2.00
Enrollment Management	767	Configure-Simple	0%	0%	0%	100%	100%	767	767	1.00
Needs Assessment	1219	Configure-Simple	0%	0%	0%	100%	100%	1,219	1,219	1.00
Service Management										
Case Management	1883	Configure-Complex	0%	0%	0%	100%	100%	1,883	3,766	2.00
Caseload Management	766	Configure-Complex	0%	0%	0%	100%	100%	766	1,532	2.00

As of 5/14/2013

		Strategy (select a								
		strategy from								
		"ApplStrategies"	% Legacy	% Reuse of	% Building		%	Adjusted		Effort Per
Component	FPs	list)	Reuse	New	Block	% Volume	Channels	FP	IT Effort	FP
Claims Management	0	None	0%	0%	0%	100%	100%	0	0	#DIV/0!
Clinical Management	93	None	0%	0%	0%	100%	100%	93	0	0.00
Complaint Management	472	Configure-Complex	0%	0%	0%	100%	100%	472	944	2.00
Funds Allocation	265	Hybrid	0%	0%	0%	100%	100%	265	795	3.00
Payment Calculation	530	Hybrid	0%	0%	0%	100%	100%	530	1,590	3.00
Payments, Collections & Recovery	1414	Configure-Complex	0%	0%	0%	100%	100%	1,414	2,828	2.00
Management										
Service and Funding Approval	458	Configure-Simple	0%	0%	0%	100%	100%	458	458	1.00
Service Planning and Monitoring	787	Configure-Complex	0%	0%	0%	100%	100%	787	1,574	2.00
Waitlist Management	118	Configure-Complex	0%	0%	0%	100%	100%	118	236	2.00
<b>Business Management Components</b>										
Corporate Services										
Business Agreement Management	963	Hybrid	0%	0%	0%	100%	100%	963	2,889	3.00
Contract Management	278	Hybrid	0%	0%	0%	100%	100%	278	834	3.00
Education and Training	238	Configure-Complex	0%	0%	0%	100%	100%	238	476	2.00
Common Business Components										
Collaboration										
Business Integration	1417	Hybrid	0%	0%	0%	100%	100%	1,417	4,251	3.00
Communications Management	85	Configure-Simple	0%	0%	0%	100%	100%	85	85	1.00
Contact Center	335	Configure-Complex	0%	0%	0%	100%	100%	335	670	2.00
Administration										
User Administration	378	Configure-Simple	0%	0%	0%	100%	100%	378	378	1.00
Information Management										
Document Management	105	Configure-Simple	0%	0%	0%	100%	100%	105	105	1.00
Knowledge and FAQ Management	22	Configure-Simple	0%	0%	0%	100%	100%	22	22	1.00
Master Data Management	331	Hybrid	0%	0%	0%	100%	100%	331	993	3.00
Metadata Management	215	Configure-Complex	0%	0%	0%	100%	100%	215	430	2.00
Master Person Registry	0	Configure-Complex	0%	0%	0%	100%	100%	0	0	#DIV/0!
Records Management	113	Configure-Complex	0%	0%	0%	100%	100%	113	226	2.00
Web Content Management	30	Configure-Simple	0%	0%	0%	100%	100%	30	30	1.00
Workflow and Rules Management										
Rules Management	329	Configure-Simple	0%	0%	0%	100%	100%	329	329	1.00
Workflow Management	109	Configure-Simple	0%	0%	0%	100%	100%	109	109	1.00

As of 5/14/2013

Component	FPs	Strategy (select a strategy from "ApplStrategies" list)	% Legacy Reuse	% Reuse of New	% Building Block	% Volume	% Channels	Adjusted FP	IT Effort	Effort Per FP
Component Bundle					2.00	/*******				
Component Bundle Release										
TOTAL FPs by Release	32,492									
Weighted Effort	59,635									
Weighted Effort Per FP										

	Release	Integrated Eligibility	Long Term Services and	Child Support	Social Services	Other Small DHS	Business Intelligence
	nelease	integrated engineery	Supports (LTSS)	onna sappore	(Child	Drograms	Basiness incemberies
			54pponts (2155)		(Crina Welfare)	1105101113	
					wenarcy		
		Child Care Assistance	Deaf and Hard of Hearing Services	Child Support	Child Placement	Indian Elder Desk	N/A
Program(s)		Program (CCAP)	(DHHS)	Program	and		
					Permanency		
		Diversionary Work	MA Nursing Facility (NF) Services		Child Safety and	Housing Resources	
		Program (DWP)			Prevention	Toolbox	
					Programs:		
		Pathways to Employment	Home Care Services		Indian Child	HIV/AIDS Unit	
		(PTE)			Welfare		
		General Assistance (GA)	Family Support Grants (FSG)		Child Welfare	Alcohol and Drug Abuse	
		Program	Program		Training	Division (ADAD)	
					Program		
		Minnesota Family	MA - Intermediate Care Facility for		Quality	Consolidated Chemical	
		Investment Program (IVIFIP)	Disabilities (ICE (DD)		Assurance	Dependency Treatment	
			Disabilities (ICF/DD)		Monitoring	rullu (CCDTF)	
					Program		
		Medicare Savings Program	Medical Assistance for Employed		Child Mortality	Compulsive Gambling	
			Persons with Disabilities (MA-EPD)		Review Program	Program	
		Minnesota Supplemental	Semi-Independent Living Services		Citizen Review	Child Development	
		Aid (MSA)	(SILS) Program		Panels	Services (CDS)	
		Supplemental Nutrition	MA - Personal Care Assistance		Intervention	Office of Economic	
		Assistance Programs	(PCA) and Private Duty Nursing		Services for	Opportunity (OEO) –	
		(SNAP)	Services		Children	Economic Opportunity	
		Minnesota Food Assistance	Telephone Equipment Distribution		Adult Mental		
		Program (MFAP)	(TED) Program		Health		
		Food Support Employment	MA - Day Training and Habilitation		Children's		
		and Training Program	(DT&H) Services		Division		
		(F3E1)			DIVISION		
		Name changed to SNAP					
		Group Residential Housing	Home and Community-based				
		Minnesota Supplemental	Community Consortium Grants				
		Aid (MSA)– Shelter Needv	······································				
		Minnesota Family Planning	Community Service/Community				
		Program	Service Development Grants				
		Medical Assistance (MA)	(CS/SD) Moving Home Minnesota (formerly				
		Medical Assistance (MA)	Money Follows the Person)				
			,				
		N diama and a Cana	Description for the All inclusion Course				
		WinnesotaCare	of the Elderly (PACE)				
		Minnesota Long-Term Care	Long-Term Care Consultation				
		Partnership	Services (LTCC)				
		Refugee Assistance	MA Elderly Waiver (EW)				
		Program	Alternative Care (AC)				
			MA – Developmental Disabilities				
			(DD) Waiver				
			MA – Community Alternatives for				
			Disabled Individuals Waiver (CADI)				
			MA - Traumatic Prain Jaiwa Maissa	<u> </u>			
			(TBI)				
			MA – Community Alternative Care				
			Waiver – serving children and some				
			adults (CAC)				
			Consumer Support Grant Program				
			Adult Protective Services Units				
			Senior Nutrition Program				
			Minnesota Senior Health Options				
			(MSHO)				
			Minnesota Senior Care (MSC)				
			Minnesota Senior Care Plus (MSC+)				
	I		Office of Ombudsman for Long-				
			Term Care				
			MA Home Health Care				
			HIV State Case Management Grants				
			State Insurance Premium Grants				
			ADAP Drug Rebates				
	<u> </u>		Minority Aids Initiative Outpact				
			grant				
			Title II Base Grant				

#### MN DHS Modernization Roadmap Appendix F - Mapping of Programs to Releases

Release	Integrated Eligibility	Long Term Services and Supports (LTSS)	Child Support	Social Services (Child	Other Small DHS Programs	Business Intelligence
				Welfare)		
		Housing Access Services Grant				
		Disability Linkage Line				
		Technology Grants – Corporate				
		Foster Care Alternatives				
		Alternatives to PCA Grants				
		Epilepsy Demonstration Project				
		Advocating Change Together Grant				
		Caregiver Support Grant				
		Eldercare Development				
		Grants/Living at Home Nurse				
		Information and Assistance Grants				
		Nursing Facility Return to				
-		Senior Volunteer Programs				
		Senior Nutrition State Grants	İ	1	İ	
		Essential Community Supports				
		Title III A – Administrative Grants				
		Title III B – Program Development				
		Grants Title IIIB – Support Services Grants				
		Title C1 – Congregate Nutrition				
		Services				
		Nutrition Services Grants				
		Nutrition Services Incentive Program				
		Title IIIB, C1 and E-Aging Federal				
		Title III D Health Promotion grants				
		Title III E Caregiver Grants				
		Title IIIE Grandparents Raising				
_		Grandchildren Grants				
		Title III E Statewide Activities Grants				
		Title VII Elder Abuse Prevention		T		
		MN Senior Medicare Patrol project				
		Medicare Improvement				
		Medicare Improvement MAAA	1	1	1	
		CMS Basic Health Insurance	1	1	1	
		Counseling Grants	ļ			
		Medicare Improvement MIPPA	ļ			
		Administration on Aging: Aging				
		Alzheimer's Outreach Grants	ł	1	1	
		Alzheimer's Innovation Grants				
		Alzheimer's Research Grants				
		AoA Alzheimer's Disease Evidence-				
		based Grants	<u> </u>			
		Aging Lifespan Grant	+	1		
		Nursing Home Advisory Council	1			
		Deaf and Hard of Hearing Services	<u> </u>	1		
		Grants				
		Rural Real Time Grant		1	1	

# Minnesota DHS ESM Roadmap - COTS Component Assumptions

COTS				Acquis-	Deploy-			Multiple	Annual SW	Annual SW	
Component	Component Name	Reference	License Cost Assumptions	ition	ment	SW License		Environment	Maint-	Maint-	Comments
	oomponent Name	Kelerence	Electise obst Assumptions	Effort in	Effort in	Costs	Environment	SW License	enance %	enance	Comments
				Days	Days		Multiplier (*)	Costs	chance //	Costs	
CS001	Human Services COTS	Based on general knowledge of market		20	20	\$ 16,000,000	1.00	\$ 16,000,000	22%	\$ 3,520,000	
	(Curam)	pricing - this is not a quoted price from									
		the vendor				· · · · · · · · · · · · · · · · · · ·					
CS002	Compliance Tracking	There are a number of offerings in the	IMB list proce for IBM Case	10	10	\$ 377,200	1.10	\$ 414,920	22%	\$ 91,282	
	SW	marketplace for this functionality,	Management solution at \$2050/user.								
		including Curam. The Curam	Assume the following number of								
		functionality is not comprehensive	users:								
		enough so it has been assumed that a	- DHS Central Office: 50								
		different package would be procured	- Counties: 2 per county (Except								
		and integrated.	Ramsey and Hennepin - total 82								
00000	Over the Manual OW	Manual states to the second of	- Ramsey & Hennepin: 10 each			<u> </u>	4.00	¢ 100.000	000/	<b>*</b> 00.400	
CS003	Grants Mgmt SW	Many choices in the market.	Assume 2 users per county plus 10	20	20	\$ 89,000	1.20	\$ 106,800	22%	\$ 23,496	
CC004	Contract Management	Many obsisses in the market	Accume 2 upore per county plue 10	20	20	¢ 170.000	1.10	¢ 105.900	200/	¢ 42.076	
03004		Many choices in the market.	Assume 2 users per county plus 10	20	20	φ 176,000	1.10	\$ 195,600	2270	φ 43,076	
C\$005	Marketing and Outreach	Some choices in the market. The	Assume a PM package with a bend	10	10	\$ 200,000	1 10	\$ 220,000	22%	\$ 48.400	
00000	SW/	requirement for M&O is to plan	towards event planning and	10	10	φ 200,000	1.10	φ 220,000	2270	φ 40,400	
	011	campaigns, events, mailings and	marketing E.g. Meta Workgroups								
		programs in a project management	2011 Their basic license is \$4000								
		context. Some generic group PM	will assume $50x$ \$4000								
		packages may do the job.									
CS006	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS007	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS008	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS009	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS010	**TBD**			0	0	\$ -		\$ -	22%	\$-	
CS011	**TBD**			0	0	\$-		\$ -	22%	\$-	
CS012	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS013	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS014	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS015	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS016	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS017	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
CS018	**TBD**			0	0	\$ -		\$ -	22%	\$ -	
**END**	Dmmy							\$ -	22%	\$ -	
**END**					\$ 80	\$ 16,844,200		\$ 16,937,520		\$ 3,726,254	

(\*) Environment Multiplier refers to the number

of licenses required to support the SDLC of a

project plus the production environment.

Building Block Component ID	Component Name	BUILDING BLOCK	Reference	License Cost Assumptions	Specif-ication Effort in Days	Acqu- isition Effort in Days	Deploy- ment Effort in Days	Single Copy SW License Costs	Environ- ment Multi-plier (*)	Multiple Environ-ment SW License Costs	Annual Support License %	Annual Support License Costs	Support FTEs per Year
BB001	Oracle 11Gg Licenses - PROD	Data Management BB	HIX environment	Includes: - Oracle Replication SW (\$400000) - Oracle DB Security SW (\$200000)	0	0	10	\$ 3,110,000	1.00	\$ 3,110,000	22%	\$ 684,200	0.5
BB002	Oracle 11Gg Licenses - DEV / TEST / UAT / TRAIN	Data Management BB	HIX environment	50% OF PRODUCTION ENVRONMENT	0	0	10	\$ 1,555,000	1.00	\$ 1,555,000	22%	\$ 342,100	0.25
BB003	Websphere AS licenses- PROD	Application Server	Per HIX environment		0	0	5	\$ 600,000	1.00	\$ 600,000	22%	\$ 132,000	0.5
BB004	Websphere AS licenses- DEV / TEST / UAT / TRAIN	Application Server	Per HIX environment		0	0	5	\$ 250,000	1.00	\$ 250,000	22%	\$ 55,000	0.25
BB005	Websphere ESB licenses- PROD	Integration / Interoperability Software BB	Per HIX environment		0	0	0	\$ 800,000	1.00	\$ 800,000	22%	\$ 176,000	0.5
BB006	Websphere ESB licenses- DEV / TEST	Integration /	Per HIX environment		0	0	0	\$ 300,000	1.00	\$ 300,000	22%	\$ 66,000	0.25
BB007	Websphere Portal - PROD	Portal Technology	Per HIX environment		0	0	0	\$ 600,000	1.00	\$ 600,000	22%	\$ 132,000	0.25
BB008	Websphere Portal - DEV / TEST / UAT / TRAIN	Portal Technology	Per HIX environment		0	0	0	\$ 300,000	1.00	\$ 300,000	22%	\$ 66,000	0.25
BB009	B2B Gateway BB	EDI, SFTP, Web Services		Assume ESB solution can suppor through FTP/SFTP or extenal web services	0	0	0		1.00	\$-	22%	\$-	0.15
BB010	Unified Communications BB	Fax, Text Messaging, IVR, E-mail, Telephone	Microsoft Website	Not required - reuse existing s/w	0	0	0		1.00	\$-	22%	\$-	0
BB011	Operating System (Red Hat Linux)	Operating System	Cost of RedHat is \$)	Ongoing suppport only (\$300,000/yr)	0		10		1.00	\$-	22%	\$ 300,000	0.25
BB012	VMWare Suite	Virtualization Software	Per HIX environment	Assume sufficient licenses for virtual environment (in addition to what's already in the HIX env.)	0		15	\$ 200,000	1.00	\$ 200,000	22%	\$ 44,000	0.15
BB013	Privacy and Security BB	Directory Services	Per HIX environment	Additional licenses	0			\$ 100,000	1.00	\$ 100,000	22%	\$ 22,000	0.15
BB014	ITSM Software	IT Servcie Management	BMC Remedy ITSM S	Could use existing software - tbd	0	20	40	\$ 200,000	1.00	\$ 200,000	22%	\$ 44,000	0.2
BB015	Data Warehouse - Exadata SW	DBMS - Data Warehouse		Depends on results of BI initiative - Software included in the Infrastructure components (Appliance)	0	0	0		1.00	\$-	22%	\$-	0.25
BB016	Business Intelligence / Analytics SW	Business Intelligence / Analytics		Depends on results of BI initiative	0	0	0			\$ -	22%	\$ -	0.15
BB017	Development Environment Software		See alternative 3 & 4 in the mapping to components.	Provided by Scott Peterson		5	20	\$ 1,000,000	\$ 1	\$ 1,000,000	22%	\$ 220,000	0.25

APPENDIX H

## Minnesota DHS ESM Roadmap -- Infrastructure Component Assumptions

5/14/2013

Infra- structure Comp- onent ID	Component Name	Reference	SW Cost Assumptions	One-Time SW License Costs	Annual SW License Costs (additional licenses)	Annual Support License %	Annual SW Support License Costs	HW Cost Assumptions	Requi- rements Specs Effort (Days)	Acquisi- tion Effort (Days)	Deploy- ment Effort (Days)
IN001	Production Hosting Servers	HIX Environment (IBM Blade Center)	Includes OS (RHES only charges ongoing maintenance included in BB)			22%	\$-	Assume expansion of current HIX environment: - Web hardware layer - Additional Application H/W - Load balancing equipment - Monitoring HW & SW - Filenet storage update - Web application firewall Needs additional data center hosting expansion (\$200,000) inclded in work package OTHER costs	5	10	5
IN002	UAT Environment Servers	HIX Environment (IBM Blade Center)	Included IN001			22%	\$-	Assume expansion of current HIX environment			
IN003	System/Integration Testing Servers	HIX Environment (IBM Blade Center)	Includes OS (RHES only charges ongoing maintenance)			22%	\$-	Estimates using HIX guidance			10
IN004	Development Environment Servers	HIX Environment (IBM Blade Center)	Included in IN003			22%	\$-	Estimates using HIX guidance			
IN005	Training Servers	HIX Environment (IBM Blade Center)	Included in IN003			22%	\$-	Estimates using HIX guidance			
IN006	DW Storage Environment (Production)	Oracle Exadata per HIX	Oracle Exadata (Appliance)			22%	\$-	Estimates using HIX guidance	5	10	15
IN007	DW Storage Environment (DEV, TEST, TRAIN)	Oracle Exadata per HIX	Oracle Exadata (Appliance)			22%	\$-	Estimates using HIX guidance			10
IN008	Recovery Licenses - PROD	HIX Environment		\$ 100,000		22%	\$ 22,000	Runs on server environment			
IN009	Recovery Licenses - DEV / TEST / UAT / TRAIN	HIX Environment		\$ 100,000		22%	\$ 22,000	Runs on server environment			
IN010						22%	\$-				

## Minnesota DHS ESM Roadmap -- Infrastructure Component Assumptions

Infra- structure Comp- onent ID	Component Name	HW Financing Strategy	HW Purchase Price	One-Time HW Purchase Costs	Annual HW Replacement Cost (using a 0 years lifecycle	Annual HW Lease Factor	Annual HW Lease Costs	Annual HW Warranty %	Annual HW Warranty Costs	Total Infrastructure Component Oper/Maintenanc e/Support Days per year
IN001	Production Hosting Servers	BUY	\$ 1,500,000	\$ 1,500,000	\$-	3.20	\$-	20%	\$ 300,000	1.50
IN002	UAT Environment Servers	BUY		\$-	\$-	3.20	\$-	20%	\$-	
IN003	System/Integration Testing Servers	BUY	\$ 150,000	\$ 150,000	\$-	3.20	\$-	20%	\$ 30,000	
IN004	Development Environment Servers	BUY	\$ 100,000	\$ 100,000	\$-	3.20	\$-	20%	\$ 20,000	
IN005	Training Servers	BUY	\$ 75,000	\$ 75,000	\$ -	3.20	\$-	20%	\$ 15,000	
IN006	DW Storage Environment (Production)	BUY	\$ 3,000,000	\$ 3,000,000	\$-	3.20	\$-	20%	\$ 600,000	
IN007	DW Storage Environment (DEV. TEST. TRAIN)	BUY	\$ 3,000,000	\$ 3,000,000	\$-	3.20	\$-	20%	\$ 600,000	0.25
IN008	Recovery Licenses - PROD	BUY		\$-	\$-	3.20	\$-	20%	\$-	0.25
IN009	Recovery Licenses - DEV / TEST / UAT / TRAIN	BUY		\$-	\$-	3.20	\$-	20%	\$-	0.00
IN010		BUY		\$-	\$-	3.20	\$-	20%	\$-	0.00