



Minnesota Energy Programs Technology Initiative Project

Project Implementation Plan

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Description

The Minnesota Low Income Household Energy Assistance Program (LIHEAP) The Weatherization Assistance Program (WAP) deliver energy assistance services to eligible Minnesotan's in need. LIHEAP assists participating households to maintain affordable, continuous, and safe home energy, while lowering their energy burdens. WAP uses energy conservation techniques to reduce the cost of home energy.

Some areas within the LIHEAP and WAP service delivery systems are accommodating old technology while others experience the technology of today. These older systems were developed to accommodate program functions of service delivery based on the best solution available at the time. The system basically acts on a decentralized basis and changes in the database have been driven by multiple entities. This has created differences in the data used by various stakeholders. These differences create gaps in information processing and sharing. The accuracy and timeliness of information is compromised by the inefficiency.

The eHEAT Project is developing solutions for Minnesota's LIHEAP and WX to serve customers, manage data and streamline program functions including a payment and customer and vendor interaction. The solution will help service providers serve customers by streamlining record keeping and reporting and has a goal of facilitating customer self-service access. The project is creating tools to better manage the programs and improve performance accountability and a greater understanding of the objectives and impact of the services.

Objective

- Develop a tool that helps manage application process for customers, providers, vendors and Department.
- Improve the reliability of information used for planning, including accurate reflections of activities and outcomes.
- Create more efficient payment procedures.
- Create a tool customers and providers feel is simple to use and aids them in their goals
- Develop self-service access to empower customers
- Create reporting system allowing for the development and management of performance outcomes and process analysis
- Streamline record keeping, program management and reporting
- Develop a tool that integrates with the data needs of the service providers.

Goals

- Developing single payment and mailing system for EAP
- Implementing Web-based input
- Integrating system for CIS needs of provider agencies
- Integrating with vendor for consumption
- Developing WAP central data system
- Including WAP Audit tool and Job Book
- Connecting databases for EAP and Weatherization Assistance Program
- Linking to other state agency databases for program eligibility determination and outreaching
- Reporting available for various stakeholders and public
- Measuring performance and outcomes for EAP and WAP
- Allowing for integration of CIP
- Analyzing inclusion of arrearages tracking and cold weather reporting
- Better correlation between EAP and WAP fiscal and program reporting for monitoring and tracking
- Instituting fiscal and program reporting for EAP and WAP of various fund sources
- Analyze the possibility of adopting existing system and reworking to accommodate Minnesota's business model

Overview of Themes

Driven by the goal of improving energy assistance delivery to Minnesotans in need of services and using precious resources in the most efficient way, we will develop solutions that streamline the process for program services, data use and uniformity of data for performance and improvement. We are looking to create a solution and infrastructure to accomplish an efficient payment process, an accessible and a sustainable data tool. The project includes tools for the WAP program for job development, costing and fiscal management.

In January 2001, State of Minnesota appointed an Energy Task Force, made up of various interested parties, which met 22 times over 10 months. Among the issues the Task Force addressed was the technology needs for the programs. Recommendations included the establishment of effective automated systems. The "Task Force Final Report" recommended that technology should be able to meet needs in the areas of security, reporting, communication to consumers, training, policies and online documentation, automatic transfers, connectivity with other systems, user friendliness, Weatherization, Web, and ease of system entry. The report can be found on the web at: www.northstar.state.mn.us>Energy Assistance Programs (On right) >Provider Resources (On left)>Reports>EAP Task Force Final Report

Since EAP and WAP moved to the Department of Commerce it has successfully marshaled the resources to begin implementing this technological initiative. The idea of developing new information system tools for program service delivery has been explored several times in the recent history of the energy programs. On the national level, several states have moved to data systems that centralize various program functions. Wisconsin successfully implemented a new, centralized system in 1996 and other states adopted or developed similar centralized models.

It is increasingly important to be accountable to customers, policy makers and taxpayers on the use of public resources. Good accounting of these resources allows for proper focus of the resources, efficient advocacy for the populations served and performance improvement. An improved data system needs to conform data collection to allow for fair analysis of the impact and direction of scarce resources.

Approaches include producing a user-friendly web-based data collection front end with a database allowing stakeholders the access to information to assist them in their work.

The executive Committee decided to analyze the Wisconsin system for potential adoption. Wisconsin has developed a system very similar to the system needed to perform EAP payment system in Minnesota. This system has been in operation from 4 years. Wisconsin's Household Energy Assistance Program (WHEAP) is in the process re-engineering the system. The new system goes on-line in March 2003. The new Wisconsin system is a three tiered structure, which allows for the components of each tier to be work on separately. The analysis of the WHEAP system shows it is adaptable.

The strengths of this option are that it is a functional model. It appears to be cost-effective as system is free on the front end with costs coming from modifying system to Minnesota LIHEAP needs. A classic mistake, though, is to assume an off-the-shelf product does not require development steps and costs, there may be some savings but will not be as dramatic as is usually assumed. Savings typically come in the 10 to 20 percent ranges. Most development research says the mistake made here is the business analysis required making the system functional are truncated and functionality suffers. The costs of correcting problems are often multiplied as much as ten times.

These steps include the need to develop key functions like mailing and payment components. Other challenges are that compared to internal development, there is an extra step to move expertise to internal staff. Some structural issues also exist like the extents of the business practice differences are unknown, it runs on a SQL system and Commerce uses Oracle. A conversion would require many functions to be rewritten which requires extensive modeling, increasing time and cost. Additionally the WHEAP system does not include Weatherization Assistant Programs (WAP), so complete business modeling and development would need to occur for WAP. This is also true of integration of CIP and other components being considered

There still needs to be a concise business analysis to do adaptation of any shelf product like WHEAP. The difference is the analysis would move towards a comparison of Wisconsin's business model to Minnesota's re-engineered business model.

The advantage of a web interface front end and a centralized database streamlines service delivery, data transfers, system administration and support, and allows providers to focus on customer service. It reduces data transfer and payment mechanisms, making the process more efficient.

Since many of the provider agencies use EAP as a entry point for low income people to other services, it is important to consider data access for this purpose. The project needs to consider the development of data transfer functions to local agency systems for this purpose.

WAP's major component is the inclusion and development of the Weatherization Audit. The Federal legislation requires State WAP's use an audit tool, which basically functions to determine the most cost-effective approach to weatherizing a home. The information works for program operation, reporting and evaluation. The WAP program functions that could benefit from "computerization" include, but may not be limited to the following:

Program reporting: Subgrantees are required to report activities for each house weatherized. Subgrantees currently use an Access-based data entry form. Information is e-mailed to the State Weatherization Office on a monthly basis for houses completed during the reporting period. This report includes some data about activities and some cost data for each home. It needs to be updated/streamlined and integrated with the rest of the data related to the household and fiscal expenditures.

Fiscal reporting: Subgrantees currently report expenditures by funding source on a monthly basis. Total expenditures are reported by budget category. Ideally, fiscal and program reporting need to be better integrated, less duplicative.

Household eligibility determination/verification: This is the point were WAP interfaces with EAP data. Although eligibility is almost always established through the EAP eligibility determination process, WAP staff needs fast easy access to proceed with the Weatherization process of determining the households to be served.

Energy Audit: Audits may be completed using a computerized audit or, as is currently the case in Minnesota, using a mostly manual audit protocol. The SIR audit protocol (with a lot of engineering calculations behind it) is approved for use in Minnesota by US Department of Energy as a waiver from their (USDOE) standard audit for the coming funding cycle. Minnesota must ask for a new waiver or use the standard USDOE audit for the upcoming cycle. All audits have four major functions:

- Collect information about the existing condition of the dwelling (like what type and how much insulation exists)
- Evaluate the dwelling for energy conservation and potential health and safety risks.
- Develop a strategy for accomplishing allowed activities. This includes prioritizing activities by energy conservation potential.
- Estimate costs for proposed activities (like construction estimating)

Currently, most agencies manually record data in a Job Book, although a few have automated the Job in a variety of ways. Cost effectiveness is calculated using a small computer program on the SIR sheet. The completed Job Book is then passed to installers as a work order. Installers record what activities they complete, including what materials they install in the Job Book. The Job Book is returned to the energy auditor (or in some cases, final inspector) so a final inspection of all work completed can take place.

Warehouse/inventory management: Some subgrantees use contractors as installers, while others use their own in-house crews. Among those who use in-house crews, most keep inventory in warehouses, so an electronic inventory management system is important. Any inventory system relies, at least in part, on information from the Job Book, so at minimum interfaces must be possible.

Job Costing: This is the process subgrantees use to assign actual expenditures to cost codes and funding sources. The information used in this process comes from the Job Book, as well as purchase orders, invoices and sometimes other documents. Because most subgrantees use more than one funding source to pay for each home weatherized, this gets very complicated. Still, any way this activity can be streamlined would be a welcome addition.

Change management is an important partner in this endeavor. Institutions often struggle with reworking their structures to accommodate changes. These changes effect personnel, workflow and organizational functions. Often, the result of these factors creates resistance from stakeholders. To reduce resistance it becomes important to offer at least minimal resource for change management. Often this can be accomplished by making it part of the implementation plans for each institution.

Other issues essential to success are a good plan for the institutional sustainability of the solution. This includes a plan for user support, training processes and support materials develops in conjunction with product delivery. Too often these issues are an after thought designed in the final phases of delivery.

The process must be founded on good business analysis, which includes legacy, present and future description of the business practices of the services. It is also essential to build in knowledge transfer to sustain the management of the system. Much of this can be accomplished by interlacing the development function into the staffing patterns that emerge as a result of the new system. The result of this is capacity building of the organization to sustain the administration and future development of the product.

Strengths:

- 1) The Energy Task Force has recommended and supports the establishment of an effective automated systems
- 2) There are existing models for the solution. Other state agencies have already done similar projects
- 3) Resources are available for this project
- 4) The organization is committed to the project
- 5) Representative staff have been assigned to the project
- 6) The staff are in agreement that it's a appropriate time to analyze business practices and where needed implement solutions that improve the program
- 7) The Department of Commerce developed an automated web-based licensing system. eHEAT can benefit from this experience

Challenges:

- 1) Some providers will not be prepared to make the change
- 2) The provider agencies have data integration concerns
- 3) This requires business changes to local agencies, vendors, Commerce fiscal, and technology units
- 4) We need to develop this system while services remain uninterrupted
- 5) Technological levels vary around the service provider community
- 6) The Commerce IT unit has suffered recent loss of expertise
- 7) The system must be sustainable and risk must be managed for changes in government structures
- 8) Staffing and consulting recommendations must be balanced
- 9) Few models exist for the incorporation of EAP and WAP in one data system

Planning and Quality Assurance Services

Project Phases

Proposed Solution

To ensure the delivery of quality solutions it is essential to incorporate a process allowing for step-by-step development where each step builds the foundation for the next step. Success is dependent on a concise project definition, which includes stakeholders having input and coming to agreement on the scope of the project. Next, a concise analysis of the business model must be developed in order to apply solutions. Solutions may be accomplished in several ways including applying technology, changing policy or refining business practices. The final step is to develop and implement the solutions.

Redefine the EAP and WAP model to support the needs of our customers in today's environment and anticipate future growth and change. This model will encompass all aspects of EAP for procedures and systems to:

1. Utilize technology toward ensuring flexibility, consistency and integrity of data
2. Grant greater access, where necessary, to internal and external customers and suppliers

This will be accomplished in a multiple phased approach. The phases are outlined below:

- Phase I** Project Definition
- Phase II** Business Modeling, Planning and Quality Assurance
- Phase III** Development and Implementation

Phase I Project Definition

InterNuntius, Inc. has been contracted to complete the Project Definition for the EAP/WAP technology initiatives. InterNuntius, Inc will act as a neutral facilitator for the process of including internal and external stakeholders to come to an agreed upon approach and scope of the project and ensure that the essential elements are consider. The services for this Phase are occurring between February 2, 2003 and April 7, 3003.

The key product from this step is the Project Definition, which will be used to facilitate Phase II of business modeling, planning, assessment and quality assurance services and throughout the project.

Services include:

- Strategic analysis
- Risk analysis
- Assess legacy work
- Identification of reengineering opportunities.
- Strategic and tactical plan for business process redesign and system implementation.
- Scope definition. (Includes Weatherization, CIP and shutoff/arrearages inclusion analysis)
- Develop proposal with project definition and get agreement from internal and external groups.
- Participate in communication of process
- Mid-level business requirements for business object modeling (enough to write an RFP for design & development for business modeling).
- Delivery information to enable state staff to develop a Request for Proposal (RFP) for procurement of business and system modeling services.

Step I: Assessment

In the assessment phase of the project, InterNuntius, Inc. is conducting an overview of the following assessment areas:

Preliminary assessment

Objective and Scope Assessment

Information and Technical Systems Assessment

Customer Interaction Assessment

Preliminary Assessment

1. Identify key stakeholders: management, technical, customer advocates, process subject matter experts
2. Identify core organizational units, business processes, and business functions to be included in project definition
3. Identify key technical processes, applications, networks, and service delivery systems to be included in project definition

Assessment Deliverables

1. List of involved organizational units, business process and functions, staff

Objective and Scope Assessment

1. Review systems and processes to identify gaps with stated mission, values and objectives; identify reengineering opportunities
2. Conduct initial internal and external stakeholder sessions to develop consensus for project objectives scope
3. Develop detailed project objectives and scope prioritization statement
4. Conduct clarifying stakeholder session to codify project definition and scope

Objective and Scope Assessment Deliverables

1. Source Material Compilation Binders
2. Interview and Session Summation Document
3. Issues and Assumptions List
4. Consensus Project Objectives and Project Scope Statement

Information Assessment

1. Review information systems to determine capability and identify gaps for meeting project objectives (Includes web and electronic communication)
2. Review business processes to identify alignment gaps and stated objectives
3. Identify business process automation and reengineering opportunities
4. Conduct clarifying technical stakeholders' sessions to build consensus of technical direction and architecture

Information Assessment Deliverables

- Capability and Needs Statement
- Consensus Statement and technical architecture
- Technical issues and assumptions list

Customer Interaction Plan

1. Identify customer communication and methods of preferred Communication
2. Identify customer communication barriers
3. Identify communication alternatives
4. Determine frequency and content of communication methods

Customer Interaction Deliverables

- Customer Service Plan Document

Step II: Project Definition

During the project definition phase, InterNuntius, Incorporated will refine information collected to create a concise project definition. At the end of this step, we will have delivered a definition in line with the stated mission and values of the EAP programs.

1. Develop preliminary business concept and process models that capture current and desired states of the EAP/WAP technology initiatives
2. Conduct Joint Project Definition (JPD) sessions with identified stakeholders
3. Develop detailed project definitions, boundaries, and contexts statements
4. Make adjustments to concept and process models
5. Conduct clarifying JPD sessions with identified stakeholders
6. Identify technology architecture alternatives
7. Develop electronic communication and web turn around plans

8. Develop information model for project definition

Project Definition Deliverables

- Project Definition Document
- Vision, Mission, and Goals Statements
- High-level plan for meeting objectives
- Scope Definition Statement defining purpose, boundaries, stakeholders
- Electronic communication and web documentation plans
- High-level information, business concept and process models

Step III: Strategy and Risk Analysis

For the final phase of the project, InterNuntius, Incorporated will analyze the compiled information and create a high-level process strategy to implement for the remaining phases of the project. We will also identify and assess project risk and business impact of implementing the agreed upon objectives.

1. Business Impact and Risk Analysis
2. Create and Information Strategy
3. Create a Cross-Functional reporting and Communication plan

Business Impact and Risk Analysis

1. Determine risks of “As Is” Business Systems Model
2. Determine Business Impact of defined project
3. Determine Technology Impact of defined project
4. Determine Risk Mitigation Strategies
5. Develop Cost Impact Approaches

Business Impact Deliverables

- Business Risk and Impact Statement
- Risk Mitigation Plan

Information Strategy

1. Determine standardized technology architecture
2. Develop application strategy
3. Develop information strategy
4. Develop process improvement and automation strategies
5. Develop short and long term technology strategies
6. Develop recommended action plans
7. Develop increment implementation plan
8. Develop continuation plan

Information Strategy Deliverables

- Information Strategy Report

Cross Functional Administration, Reporting, and Communication throughout the course of the project, we will utilize cross-functional reports, meetings, and other communication strategies to maintain open communication with agency personnel.

1. Project strategy and planning meetings
2. Status reports
3. Deliverable walk-through, review, and Inspections
4. Maintain and update master plan
5. Prepare management report
6. Obtain sign-off

Deliverables

- Phase I sign-off

Phase II Planning, Quality Assurance and Business Modeling

The primary outcome of this phase is to develop business models bringing the project from conceptual to functional model of components to re-engineered models. The functional model must be precise enough to be the guidance for the design and building of a physical model. Also, the deliverables will be used to develop an RFP to facilitate the planning, assessment and quality assurance services in Phase III.

Planning & Assessment services include:

- Current business process analysis.
- Current systems/legacy assessment.
- Development of reengineered models
- Increment selection and scope definition of all increments.
- Develop a Request for Proposal (RFP) for procurement of the product and system development or whatever is necessary to implement each increment.
- Business and system requirements (enough to write an RFP for design & development for all segments).
- Implementation plan for capacity building and training

Quality Assurance Services include:

Quality assurance services include oversight and quality assurance responsibilities for the implementation of the first increment, examples are:

- Review proposals and assist in selection of product and system development vendor for Phase III.
- Assist in knowledge transfer for Phase III.
- Monitor and report on performance relative to the contract schedule.
- Monitor quality of the work performed.
- Manage project risks.
- Proactively review the development activities and suggest improvements.
- Conduct ongoing usability studies of the proposed product.
- Ensure that business and system process redesign is aligned with Program Mission.

Business Modeling Services Include:

In addition to producing the deliverables outlined in the RFP, the selected vendor is expected to perform additional duties. These duties include, but are not limited to:

- Modeling including Object, Process, Event, Location and Socio-political for all aspects of the business.
- General contract management and project management in conjunction with Project Coordinator.
- Staffing the project (vendor staff must be present on site with EAP staff and work closely with Project team).
- Staffing concepts for ongoing support of re-engineered model.
- Implementation plan for state and local level.
- Fully documenting all information gathered and specifications.
- Assist the State in developing a RFP for procurement of the product and system development.
- Product evaluation and selection
- Providing training for the project team for any new software or methodology used in Phase III of the project.
- Writing reports and presenting project information to the steering committee and stakeholders as needed.
- Assist in development of a communication plan and change management associated with new processes.
- Cost benefit analysis

Summary of Deliverables:

The successful vendor is expected to provide the following types of deliverables in Phase III of the project. The vendor, as part of the response to this RFP should provide examples of the following deliverables and explain the level of detail that will be provided.

- Risk mitigation plan

- Current Business Models functions/processes with analysis document of current systems with models depicting architecture and supporting text and graphic explanations
- Technical capacity analysis
- Reengineered Business Models including Object, Process, Event, Location and Socio-Political models for each aspect of the business, i.e. Application Processing, Benefit Payment Control, Notification, Assurance 16 Services, ERR process, Special Allocations, Appeals, Weatherization including Job Book, energy audit tool, and one depicting the entire EAP and WAP operations.
- Documentation of product including narrative text and graphic to support the models
- Cost/benefit analysis of reengineering opportunities
- Impact analysis of reengineering opportunities for State and local entities including description and pros/cons of technical solutions analyzed and considered.
- Project plan that lays out the activities and timeline for Phase III
- "To Be" Business models and requirements specifications
- Technical specifications recommendations to support the whole project and specifics for Phase III
- Description and pros/cons of technical solutions analyzed and considered.
- Cost/benefit analysis of technical solutions analysis.
- Quality Assurance Plan.
- Training and Implementation plan.
- Plans to ensure initiated changes are sustained.
- RFP to procure product and system development or whatever is necessary to implement the solution

Phase III Design and Implementation

This is the development of interactive systems to integrate the new processes

Services include:

- Product evaluation and selection from Phase II recommendations
- Execute planning & requirements analysis built from models developed in Phase II
- Maintain detailed increment delivery deadlines
- Assure risk mitigation plan
- Process business object model into physical model
- Product testing and debugging
- Training
- Documenting
- Implementation

Summary of Deliverables:

The successful vendor is expected to provide the following types of deliverables in Phase III of the project. The vendor, as part of the response to this RFP should provide examples of the following deliverables and explain the level of detail that will be provided.

- Project plan that lays out the activities and timeline for the execution of product development
- Construction or purchase of systems to satisfy the business requirements
- Physical data model
- Documentation of technical specifications of product including narrative text and graphic to support the product
- Technical analysis document of re-engineered systems with models depicting architecture and supporting text and graphic explanations
- Knowledge transfer