Department of Health & Human Services
DHHS
NEBRASKA

WIC MIS IMPLEMENTATION ADVANCED PLANNING DOCUMENT (IAPD)
<REVISED IN RESPONSE TO FNS COMMENTS>

NEBRASKA
WIC
Nutrition Program

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Submitted by:
Peggy Trouba
Nebraska WIC Program
301 Centennial Mall South
Lincoln, NE 68509
Phone: 402-471-2781
Fax: 402-471-7049

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Table of Contents

State of Nebraska
WIC Project Management & Planning Services
IAPD

I. Transmittal Letter

The Transmittal Letter was previously submitted to USDA.

II. Executive Summary

This Executive Summary describes at a high level the business need for a new information system for the Nebraska Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). This Implementation Advanced Planning Document (IAPD) describes and requests approval and WIC funding for a project to replace the automation system currently used to support local agency (LA) operations and state agency (SA) level program management in Nebraska. The IAPD has been developed in accordance with the guidelines in the United States Department of Agriculture (USDA) Food and Nutrition Service (FNS) Handbook 901.

II.1. *General Information*

Nebraska WIC is proposing to replace its aging legacy data system through the transfer and implementation of a modern, web-based system. Consistent with state and federal guidance, only systems that have been successfully implemented in other states and are fully USDA/FNS Model Functional Requirements Document with EBT (FReD-E) compliant were considered.

There are a number of existing web-based systems and a few being modified that meet this requirement. However, USDA guidance requires that states first consider transfer of a State Agency Model (SAM) system. Moreover, USDA/FNS has stated that they will only provide full funding for transfer of a SAM system. Two of these systems are or are likely to be fully operational and fully FReD-E compliant by the time that Nebraska is prepared to procure a system:

Successful Partners in Reaching Innovative Technology (SPIRIT)

Mountain Plains States Consortium (MPSC) SAM

However, during Nebraska planning, there was a moratorium on new states being accepted into the SPIRIT Users Group. USDA/FNS has informed Nebraska that the SPIRIT system is available for transfer as of June 8, 2012. Nebraska has also learned that the last state required to implement the MPSC system, Wyoming, has completed statewide rollout as of the end of September 2012. This fits well within the Nebraska procurement time frame.

In reviewing the two systems, inclusive of comprehensive system demonstrations, Nebraska determined the MPSC system was a good fit in program and business practices, functionality, and had a compatible timeline. In addition, Nebraska State and local agency staff expressed a strong preference for the look and feel of the MPSC system. Therefore, Nebraska is proposing to move forward by selecting the MPSC system.

The new WIC system defined by this IAPD will automate most of the functions at both the LA or clinic site and SA level. As a SAM system, it will employ modern web technology [Hypertext Markup Language (HTML)/Hyper Text Transfer Protocol (HTTP)], standard WIC data elements, open system architecture, modular components, compliance with federal policy and regulations, and be Electronic Benefit Transfer (EBT) ready (MPSC will be EBT functional in Wyoming). Additionally, the transfer system

employs centralized database architecture. The following functions are to be included in the WIC Information System:

- Applicant and Participant Services;
- Health Surveillance;
- Food Benefit Issuance;
- Vendor Management;
- Food Benefit, Settlement and Reconciliation;
- Financial Management;
- Caseload Management;
- Operations Management;
- Scheduling; and,
- System Administration.

The functionality is defined in detail in Chapter V, Functional Requirements Document, of this IAPD.

Transfer and implementation of a modern, web-based WIC data system will prepare Nebraska for selection and implementation of EBT, in compliance with the Healthy, Hunger-Free Kids Act of 2010. Both the data system and EBT initiatives are endorsed by the Nebraska Department of Health and Human Services (DHHS) and will involve the active participation of DHHS's Information Systems and Technology (IS&T) Division.

Once implemented, Nebraska is considering three options for the operation and maintenance of the system; in-house operations and maintenance, hybrid operations and maintenance, or out-sourced operations and maintenance. The determination of which of these options to exercise will be based on the most advantageous approach for the State and will include consideration of in-house cost estimates to proposed optional costs for the two options involving contractor support. As is the case with today's legacy system, should the in-house option be exercised, DHHS IS&T will house, operate and maintain the host servers, and will be responsible for the help desk. Should the State exercise the hybrid Nebraska staff would operate the help desk, maintain the servers, conduct user training, and define user requirements and change requests. Software maintenance along with software enhancements would be performed by the contractor. Should the State exercise the out-sourced option, the contractor will house, operate and maintain the host servers, and will provide level 2 Help Desk support. Following implementation and for a period up to five (5) years the Development and Implementation Contractor (D&IC) contractor will provide software warranty and may be required to provide application enhancement services.

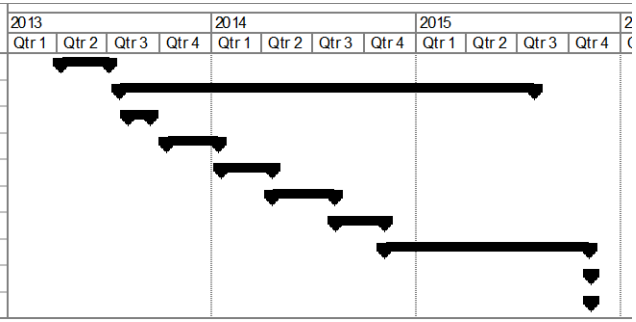
Should MPSC create a Users Group (as seems likely), Nebraska will join the Group and work with the Group for the coordinated development, testing and deployment of software enhancements.

Nebraska has procured the services of a project management contractor and will procure the services of a separate quality assurance contractor by means of a competitive procurement. The total period of performance for the D&IC project will be approximately three (3) years through completion of the initial warranty period.

The project schedule is summarized below. A detailed project schedule is presented in section IX, Schedule of Activities, Milestones and Deliverables, of this IAPD.

Figure 1: Project Schedule Summary

ID	Task Name	Duration	Start	Finish
1	Task 0 - D&IC Procurement	62 days	Mon 4/8/13	Tue 7/2/13
8	TASK 1 - Project Initiation, Planning and Management	529 days	Mon 7/22/13	Thu 7/30/15
13	TASK 2 - System Design	30 days	Mon 8/5/13	Fri 9/13/13
19	TASK 3 - System Transfer, Modification, and Technical Testing	66 days	Mon 10/14/13	Mon 1/13/14
23	TASK 4 - User Acceptance Test (UAT)	65 days	Mon 1/20/14	Fri 4/18/14
27	TASK 5 - Pilot Test	79 days	Mon 4/21/14	Thu 8/7/14
34	TASK 6 - Rollout	63 days	Mon 8/11/14	Wed 11/5/14
39	TASK 7 - Initial Warranty Period	262 days	Thu 11/6/14	Fri 11/6/15
45	TASK 8 - Project Closure and Transition	1 day	Mon 11/9/15	Mon 11/9/15
48	TASK 9 - Extended Warranty and Operation Period Options	1 day	Mon 11/9/15	Mon 11/9/15



II.2. *Program Issues*

The Nebraska WIC MIS Project is directed at the customer level. The Steering Committee (SC) Chair and Project Director is Peggy Trouba, Nebraska WIC Director. The senior technical authority is Candice Avery, DHHS IS&T Applications and Development Support Manager. They are joined on the SC by Choo Ng, WIC System Business Analyst, Regina Paschold, Vendor Management Coordinator, and Melissa Oerman, WIC Supervisor (Local Agency Representative). In addition, the DHHS Project Coordinator will be added to the SC once hired. Nebraska intends to fill this position just prior to release of the Implementation Request for Proposals.

During the planning initiative and throughout the project Nebraska WIC will draw upon state and local functional expertise. During the planning project, BCA, the planning contractor, conducted workshops with state and local agency representatives to confirm requirements and define gaps in SAM system designs. The result of these efforts is presented in IAPD sections VI, General System Design, and VII, Capacity Study.

Representatives of local agency nutritional and clerical staff participated in the planning effort and will be participating in design confirmation and User Acceptance Test (UAT) activities.

Nebraska WIC herein commits to meet all requirements for sufficient information technology capabilities (e.g., Participant Characteristics Minimum Data Set, Functional Requirements outlined in the ADP/CIS Model Plan) and to ensure the system produces required program reports.

II.3. *Financial Issues*

As the WIC Program will be the only user of the system, no cost allocation plan is required.

A schedule showing the estimated development costs for the total project, by Federal fiscal year and broken out by quarter, including the total costs and what it includes (all system components, hardware/software, deliverables, services, etc.), is presented below. One hundred percent of the costs of the project are being requested from USDA FNS. No State funds are available.

Figure 2: Project Cost Outlay

Quarterly Project Cost Outlay

	FFY 2013			FFY 2014				FFY 2015				
	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	**Totals**
Funding												
Total Funding Requested	32711	145701	747483	388314	678134	1141583	472583	462583	172583	45231	10000	$4,296,908.00
Total Funding Sources	32711	145701	747483	388314	678134	1141583	472583	462583	172583	45231	10000	$4,296,908.00
Budget Activities												
State Personnel Costs												
SA Personnel (NSA Funds)*		6876	15952	12028	16350	16350	16350	7448				$ 72,450.00
Project Coordinator		35361	35361	35361	35361	35361	35361	35361	35361			$ 282,888.00
Project Administrative Assistants		59280	59280	59280	59280	59280	59280	59280	59280			$ 474,240.00
State Personnel Costs Total												**$ 757,128.00**
Contractor Costs												
D&IC Contractor			60000	100000	100000	979000	310000	300000	10000	10000	10000	$1,879,000.00
Project Management Contractor	32711	32711	32711	32711	32711	32711	32711	32711	32711			$ 294,399.00
QA Contractor			35231.25	35231.25	35231.25	35231.25	35231.25	35231.25	35231.25	35231.25		$ 281,850.00
Contractor Costs												

Total												**$2,455,249.00**
Equipment Costs												
Local Agency Equipment			100000	100000	345932							$ 545,932.00
State Data Center Equipment			382500									$ 382,500.00
Equipment Costs Total												**$ 928,432.00**
Telecommunications Installations Costs			42400									$ 42,400.00
Telecommunications Installations Costs Total												**$ 42,400.00**
Training Costs												
Super User Training		18349										$ 18,349.00
Pilot Training				25731								$ 25,731.00
Rollout Training					69619							$ 69,619.00
Training Costs Total												**$ 113,699.00**
Total Payments												**$4,296,908.00**

* NSA Funds, not included in Project funding request.

As noted in the Figure above, Nebraska WIC Staff time expended on the Project will be charged to NSA funds and are not included in the Project budget funding request. Nebraska will track NSA expenditures related to the Project. State WIC staff report time using a continuous time reporting method. A specific code has been designated for the MIS project and staff code all time spent on the MIS Project to that code. Should technology funding or another funding award become available, an additional code will be added to code time to be charged to the specific funding award. Reports indicating personnel cost are only available by the line item and by specific code but are not available by individual staff person. Reports on staff hours by individual staff person are only available through their individual time sheets.

Nebraska intends to procure new hardware for the central processor installation for the system and must also replace aging PC and Laptop equipment in local agencies as a part of the WIC MIS Project. In the event Nebraska chooses to outsource system operations, it is expected that the costs of the central processor installation will still be the responsibility of the State, either in direct costs or reflected in the first year operational costs. This will ensure that the equipment necessary to support the new system is available. In addition, Nebraska must procure new peripheral equipment to support system operations in the local agencies including MICR printers, scanners and signature pads.

A waiver of depreciation is being requested.

The cost of the system transfer is estimated to be $4,296,908.

The program has concluded that its legacy system, developed by Wang and CMA Consulting Service in the late 1980's to early 1990's and based on the technology of the day, is increasingly unstable, difficult to impossible to modify or enhance, and vulnerable to catastrophic failure. The system is prone to error and is based on an architecture that is obsolete and no longer supported by major systems vendors.

The system provides automated certification, health data collection, and on-site food instrument production in fourteen (14) local agencies and one hundred ten (110) individual clinics statewide.

At the State level, the system supports limited financial and vendor management activities. Check issuance information is communicated nightly to the banking services provider, Solutran, who in turn provides daily redemption information to the WIC Program. The vendor management module provides for the collection of vendor data, tracking of authorization status, and documenting vendor monitoring.

The system produces reports, which are used by both State and local staff. The usage of these reports varies widely across the local agencies, as many standard reports no longer function because they were not modified along with system changes. Instead, report data must be generated through queries. As the system does not have an ad hoc reporting tool, State IT staff extracts data using Oracle tools or SQL.

The cost benefit study determined that the least expensive operations and maintenance alternative was full in-house support. However, it is possible that bidders will offer reduced cost operations and maintenance services given market pressures or economy of scale. Nebraska intends to request bidders provide costs for optional hybrid or out-sourced operations and maintenance and will select the most advantageous alternative for the State during the procurement process.

However, even the first option (full in-house support) could not achieve a total project cost break-even point until after years of operations and potentially never will. This is due to the fact that the operation and maintenance costs of a new, modern system are considerably higher than those of the current system.

Nevertheless, the selected alternative offers several intangible benefits, including:

- a strong fit with the SA's organizational capacity;
- a centralized database, thus eliminating the need for data synchronization;
- EBT functional readiness; and,
- a robust architecture supportable by industry for at least a 10 year lifecycle with little modification.

II.4. *Technical*

In the effort to determine the best alternative for a system for Nebraska, WIC sought the input of its planning contractor (BCA), the State's IT and WIC staff, local agency WIC staff, other State WIC Programs, and the WIC IT development contractor community. Planning meetings were conducted, led by BCA. Local agencies and clinics were visited to seek local WIC staff input and assess the agencies' capability to adopt and utilize a new system. Demonstrations of potential solutions were sought from the WIC IT vendor community to gain knowledge and insight as to the available architectures, operating systems, databases, and functionality. Finally, interviews with other States' WIC staff were conducted, particularly those currently engaged in or recently completing MIS initiatives to gain insight on lessons learned.

An initial step in evaluating which alternative was best suited to the needs of the Nebraska WIC Program was to identify and evaluate any limitations Nebraska WIC might have that might eliminate or support selection of specific systems. To this end, Nebraska conducted the following activities:

- Study of the current system, its architecture, functionality, operation, reports, and maintainability;
- Site visits to and interviews with local agencies for the review of the existing system, discussion of desired improvements, and identification of possible technology or telecommunications upgrade needs;
- Review of the State's Information Technology (IT) security and architecture standards;

- Interviews with State agency staff inclusive of the WIC Program Director, Administrative Operations Coordinator, Vendor Management Coordinator, Nutrition and Breastfeeding Coordinator, Food Operations Coordinator, Clinic Services Coordinator, and Nutrition and Health Services Consultant for identification of needs and limitations;
- Interviews with State IT staff; and,
- Review of technical sources relating to software, systems software, and systems technology in Web-based systems environments, and in particular, the current state-of-the-art, Web-based WIC systems.

Each of the various alternatives was evaluated in light of Nebraska WIC's requirements. In evaluating each alternative Nebraska was mindful of its baseline requirements for a new system, inclusive of the following needs and considerations:

- The new system must improve program integrity, simplify reporting, and make clinic operations and vendor management more efficient;
- The new system must facilitate improved customer service by providing enhanced functionality for state and clinic staff;
- In order to serve the Nebraska Program into the next decade, the new system must be a modern Web-based system using advanced technology;
- The new system must meet all functional requirements of a modern WIC system as set forth in the USDA/FNS FReD-E with potential modifications and enhancements to meet Nebraska-specific functional requirements as set forth in the Nebraska FReD inclusive of re-branding and meeting State IT standards. In addition, Nebraska has identified and prioritized a list of desired enhancements to the system, which will be requested of the D&IC should funding be available and approval received from the MPSC user group and/or USDA/FNS (please see Attachment A (section XV), Prioritized List of Desired System Enhancements);
- The new system must use open system architecture standards to ease the implementation process for Nebraska;
- The new system must be in compliance with Federal policy and regulations;
- The new system must meet all FNS approved system security and WIC participant confidentiality requirements;
- The new system must be EBT ready or EBT operational to allow Nebraska WIC to move to EBT from paper FIs with minimal system modification or difficulty;
- The new system must improve Nebraska WIC's financial performance, enhancing the Program's ability to track program expenditures, process and manage product rebates, support cost-containment initiatives, and provide comprehensive federal reporting with timely and accurate data;
- The new system must support improved reporting capabilities through electronic transmissions and format to support the e-government initiative; and,

- The new system must provide increased access to data for WIC State and local agency staff inclusive of ad hoc reporting capabilities.

Nebraska identified three primary approaches to a WIC system software modernization project that could address the needs and considerations listed above: 1) upgrade and enhance the existing system, 2) transfer and modify functionality or technology within an existing system or, 3) custom build a new system.

Upon careful consideration it was determined that the current Nebraska system is based on such aged technology and functionality that the typical advantages of this approach would not be realized in a Nebraska effort. Any effort to retain and modify the current Nebraska WIC system would entail an entire re-development of the system, based in a new platform, operating system, development language, and database with significant changes to business rules, processing logic, and telecommunications requirements. These necessities render the alternative of retaining and modifying the existing system to be comparable to alternative 3, Custom Build a New System, with all the disadvantages of this approach as outlined below. For these reasons, upgrading the existing system was not deemed a feasible alternative.

The second alternative, transfer and modify an existing system, was determined to be feasible and to follow current USDA recommendations. While transfer of an existing non-SAM Web-based system was determined to be technically feasible, Nebraska considered that USDA FNS has directed the states to consider a SAM system transfer first.

The SAM initiative was specifically intended to foster the development of modern, state-of-the-art systems that could readily be transferred to other states. Moreover, USDA has stated that non-SAM system transfers may not receive full funding. Given that the State has no funds to support the MIS Project, this federal funding constraint alone rendered the transfer of a non-SAM system unfeasible.

There are currently two SAM systems, SPIRIT and MPSC. The SPIRIT system was found during the JAD sessions to be essentially identical to the MPSC system in terms of functionality and technical design. However, Nebraska determined the MPSC system was a good fit in program and business practices, functionality, and had a compatible timeline. In addition, Nebraska WIC staff, both State and local agency, expressed a strong preference for the MPSC user interface look and feel after having seen thorough demonstrations of both systems. Experience in the WIC Program and elsewhere has shown that end-user buy in is a critical factor in a system's success. In addition, the noted moratorium on transfer of the SPIRIT system rendered its availability uncertain (during Nebraska's decision process) while, as noted above, it appears that the MPSC system almost certainly will be available. Nebraska preferred the relative certainty of the availability of the MPSC system for transfer over the then status of the SPIRIT system.

In the course of the conduct of design sessions, Nebraska determined the MPSC system was a good fit in several ways. MPSC is FReD-E compliant. The FReD-E embodies most Nebraska desired functionality. The MPSC system was developed with extensive use of 'system parameter' settings allowing flexibility of operations in various functional

areas to facilitate the use of the system by multiple states (e.g., active or inactive risks, table driven food packages, static or rolling month issuance, number of months issuance, staff specific or appointment type participant scheduling, etc.). This will allow Nebraska to adjust system settings easily if needed for Nebraska purposes. In interviews with senior administrators DHHS IS&T informed WIC that they have the technical capacity to operate and maintain a .NET, Smart Client application utilizing MS SQL and that they currently operate several similar systems.

The third alternative, custom build a new system was determined to be technically feasible. However, two critical non-technical factors ruled it out. Firstly, as noted above, USDA/FNS has stated that they will only provide full funding for transfer of a SAM system. Secondly, the State's aging and unstable legacy system must be replaced in as short a period as possible. The four to five year timeline typical of a new system design and development renders this alternative unfeasible.

II.5. *Procurement*

As indicated, Nebraska proposes to develop an Implementation Request for Proposals (IRFP) to procure a D&IC contractor to transfer the MPSC system. The IRFP will be an open, competitive procurement. The IRFP will also ask the bidders to respond on a line item basis to provide costs for the State's desired enhancements to the MPSC system (please see Attachment A (section XV), Prioritized List of Desired System Enhancements). In addition, the IRFP will ask bidders to provide proposed costs for both hybrid and out-sourced operations and maintenance of the system. Upon receipt of the bids and evaluation of proposals, Nebraska will compare the bid costs for hybrid and out-sourced operations and maintenance to the estimates of in-house costs and select the most cost effective solution.

The state will separately procure the hardware needed for the new system.

A separate procurement will be held for a quality assurance contractor.

The planning contractor is not permitted to bid on the D&IC contract or the QA contract.

II.6. *Security Issues*

Nebraska WIC is committed to compliance with USDA FNS security requirements, including development of a disaster recovery and business continuity of operations plan.

III. Feasibility Study

The Nebraska WIC Feasibility Study was previously submitted to USDA.

IV. Cost Benefit Analysis

This section of the IAPD identifies the anticipated costs of transferring the MPSC SAM system. Nebraska notes that according to USDA/FNS, the transfer of a SAM system does not require the development of a Cost Benefit Analysis. Nonetheless, Nebraska conducted analysis during the conduct of its Feasibility Study.

While the MPSC system has not yet been transferred, it is anticipated that the cost to transfer the system would be approximately the same as recent transfers of the SPIRIT and Michigan system. The SPIRIT system has been transferred to Missouri, Montana, Arkansas, and Minnesota. The Michigan system is in the process of being transferred to South Dakota.

The cost figures from these transfers were used to arrive at the anticipated costs for transfer of MPSC to Nebraska. As noted in the analysis, there has been considerable variation in the cost for transferring the SPIRIT system. Based upon interviews with the states and with the contractor, CSC, it appears that a primary factor in this variation is the extent of desired enhancements to the system. While Nebraska has developed a comprehensive Functional Requirements document based on the FReD-E, nonetheless, they identified a list of specific functions that they must have to meet State IT standards or would like to have included in their new system that in some cases are enhancements over the base FReD functionality. Nebraska has prioritized these enhancements and selected the high priority functions for inclusion in the scope of work of the IRFP as mandatory and optional items (please see Attachment A (section XV), Prioritized List of Desired System Enhancements). In this manner, Nebraska will be enabled to determine what modifications may be affordable in the contract and which may need to be deferred to a future effort.

Other costs affecting the SPIRIT and other WIC system transfers historically include the extent of contractor provided training, on-site staff requirements associated with various contractor tasks, and the level of contracted help desk support. Nebraska has explored options and in-house capabilities in these areas and determined minimal support requirements in these areas.

The results of the cost analysis are presented below.

IV.1. *System Transfer/Modification/Implementation Costs*

IV.1.1. <u>D&IC Costs</u>

The cost estimates reflected in this analysis were derived using the best and final offers from selected SPIRIT transfers and the South Dakota transfer of the Michigan system competitive procurements. The SPIRIT transfer costs utilized were for the Arkansas and Missouri transfers. The Minnesota bid included operations and maintenance and tier one help desk support, and as such, was significantly higher and was not deemed a comparable figure. Similarly, the Montana transfer included no modifications, and although it was still nearly $1M, it was also deemed not comparable to the Nebraska requirement.

Figure 3: Recent System Transfer Costs

Development and Implementation Contractor (D&IC) Contract Cost	
Cost Source	**Best and Final Offer**
Arkansas SPIRIT Transfer	$1,022,856.00
Missouri SPIRIT Transfer	$1,322,490.00
South Dakota Michigan Transfer	$1,259,000.00
Average	$1,201,448.60
Estimated D&IC Cost for Nebraska*	**$1,400,000.00***
Estimated Cost of Nebraska Modifications	**$479,000.00**
Estimated Total D&IC Cost for Nebraska	**$1,879,000.00**

* Includes inflation. Does not include modifications.

The D&IC scope of work will include project planning; detailed design (of modifications) inclusive of JAD sessions with State and locals agency staff; technical testing; User Acceptance Testing support; Pilot training and support; help desk support; and, rollout training and support. In addition, the D&IC will be requested to provide up to 5 years of warranty on an optional basis by year and provide bids for hybrid or outsourced operations and maintenance for the same period. It is anticipated that any future enhancements desired by Nebraska, should these be requested of the D&IC rather than in-house efforts, would be procured on a task order pricing basis.

IV.1.2. Hardware, Software, Telecommunications and Training Costs

At a minimum state servers and databases would need to be purchased to support a Web-based environment. The current system runs on an RS6000, an aging platform that is incapable of hosting the new system. In addition, software licenses for SQL Server would also need to be purchased. In addition, local agencies will require hardware upgrades including personal computers, scanners, signature pads, and MICR printers. The Central Processor hardware and software costs needed to support a Web-based environment total $382,500. In addition, the new system will require the use of scanners and signature pads as well as MICR printers (NE currently uses Dot Matrix printers). This new equipment must be purchased. Nebraska has also identified the need to replace aging PCs and laptops with new equipment. The current Nebraska system does not require significant PC capability. The new system requires faster and more powerful PCs than currently exist in some Nebraska agencies. The preliminary estimate of Personal Computers and Peripherals hardware costs is $545,932.

Figure 4: Central Processor Hardware and Software Costs

Item				*Enterprise version*			*Enterprise version*			
	DELL Server Model	Number of Servers	Number of Processors	Per MS/SQL Cost	MS/SQL License Cost	Total Server Cost	Windows Server 2008	Data Center Edition OS	Backup Exec Recovery	Grand Total
Database Backup/Disaster Recovery	R710	1	2	$18,000	$36,000	$10,000	$6,000	$6,000	$600	$58,600
Database Backup/Disaster Recovery	R710	1	2	$18,000	$36,000	$10,000	$6,000	$6,000	$600	$58,600
Web server (IIS)/Application	R310	1	1			$4,000	$3,000	$3,000	$600	$10,600
Web server (IIS)/Application	R310	1	1			$4,000	$3,000	$3,000	$600	$10,600
Web server (IIS)/Application add'l	R310	1	1			$4,000	$3,000	$3,000		$10,000
Warehouse/Report Server (SQL)	R710	1	1	$18,000	$18,000	$9,500	$3,000	$3,000	$600	$34,100
SAN (Storage Area Network)		2				$75,000				$150,000
SAN Infrastructure		2				$25,000				$50,000
[redundant switches, network cards, etc.]										
[capable of real-time data synchronization]										
Grand Total										**$382,500**

Figure 5: Personal Computers and Peripherals Hardware Costs

Item	Brand & Model	Total Units	Unit Price	Total Cost	Warranty Information
Desktop + Monitor	Dell Optiplex 390	185	$1,085.00	$200,725.00	5-yr On-site
14" Laptop	Dell Latitude E6420	82	$1,376.00	$112,832.00	5-yr On-site
Compact Desktop Scanner	Canon imageFORMULA DR-2010C	65	$443.00	$28,795.00	1-yr Exchange
Networked Desktop Scanner	Kodak Scan Station 500	2	$2,100.00	$4,200.00	90 Day Hardware Warranty
Signature Pad	Topaz SignatureGem LCD4x3 (T-LBK755SE-BHSB-R)	222	$400.00	$88,800.00	3-yr Exchange
MICR Printer - Stationary	Source Technologies (Lexmark) MICR ST9620	44	$1,270.00	$55,880.00	
3-yr Exchange Warranty	For MICR ST9620	66	$230.00	$15,180.00	3-yr Exchange Warranty
3-yr Next-Day On-site Warranty	For MICR ST9620	7	$412.00	$2,884.00	3-yr Next-Day On-site Warranty
MICR Printer - Travel	Source Technologies (Lexmark) MICR ST9612	29	$649.00	$18,821.00	
CERT Printer - Stationary	HP LaserJet P2035n	39	$286.50	$11,173.50	1-yr Exchange
CERT Printer - Travel	HP OfficeJet 100	29	$229.00	$6,641.00	1-yr Exchange
TOTAL				**$545,931.50**	

IV.1.3. Telecommunications Installation Costs

Nebraska has conducted a survey of the telecomm capacities of its local agencies and their associated clinic sites. The results of a preliminary analysis of the survey are presented in the table below.

Figure 6: Telecommunications Installation Costs

	Total Units	Unit Cost	Total
Mobile Hot Spot Modem Cost	20	$300.00	$6,000.00
Wireless Air Card Cost	1	$100.00	$100.00
Cable Installation	2	$500.00	$1,000.00
DSL Installation	58	$200.00	$11,600.00
Wireless Modem/Router	79	$300.00	$23,700.00
TOTAL			**$42,400.00**

IV.1.4. User Training Costs

Nebraska has considered training costs in developing this Study. The results of this analysis are presented below.

Figure 7: User Training Costs

Training Type	# Attendees	Miles	Mileage Cost	Meal Cost	Hotel Cost	Total
Super User Training						
	29	3700	$ 2,054	$ 6,670	$ 9,625	$ 18,349
Pilot Training						
	49	3700	$ 2,141	$ 11,270	$ 12,320	$ 25,731
Roll-out Training (8 regional events)						
	190	3020	$ 2,469	$ 35,195	$ 31,955	$ 69,619
Totals	**268**	**10420**	**$ 6,664**	**$ 53,135**	**$ 53,900**	**$ 113,699**

IV.1.5. Project Coordination and Additional Project Support

Nebraska has obtained the services of a Project Management contractor (BCA) during the planning phase of the Project. The Project Management consultant will continue to guide the Project and support management needs throughout the course of the effort through completion of implementation. However, as Nebraska is a small WIC state and has correspondingly low staff capacity, the State has determined that additional Project staff support will be necessary from Project initiation through completion of system implementation. Based on previous WIC system transfer and design projects in other states, Nebraska has estimated the needs for project personnel to implement a new Nebraska system as follows:

1. Project Coordinator - One (1) full time (1 FTE)
2. Project Administrative Assistants - Two (2) full time (2 FTE)

The duties and responsibilities of these Project positions will be as follows:

- DHHS Project Coordinator – This position will coordinate all Nebraska state and local agency staff participation in Project activities inclusive of supporting facilities acquisition for meetings, training, design sessions and testing. In addition, this position will coordinate ancillary procurement activities such as equipment purchases. Furthermore, the Project Coordinator will act as the primary liaison between external and supplemental stakeholders (e.g. local agencies, vendors, State IT Department, etc.) and State WIC personnel. This involves regular updates regarding the project's progress and each stakeholder's involvement in Project activities. The Project Coordinator will also perform these duties for the Nebraska EBT Project should the State obtain FNS approval to move forward with that effort. At present, Nebraska has received approval of its Planning Advance Planning Document for EBT and has commenced the EBT planning activities. The Project Coordinator will be mentored and supported in these activities by the Project Management contractor.

- Project Administrative Assistants – The Project Administrative Assistants will provide support in general WIC administrative duties to the senior State Agency WIC staff during the course of the Project to enable State Agency staff to provide time to focus on Project activities such as design sessions, document review, system testing, and changes in program management and operation due to the new system. Examples of project activities completed by State Agency staff could include review and revision of current policies; review and revision of training materials; development of new procedures and training materials; and evaluation of individual clinic operations.

In addition, Nebraska understands that the complexity and level of effort required to transfer, modify and implement a SAM System justifies the assistance of a quality assurance (QA) contractor. The QA contractor will independently review the work products produced by the D&IC, assist in the process of functional and technical specification modifications (if any), and perform other services within the scope of the

QA contract. Nebraska estimates the QA services will cost approximately fifteen percent of the D&IC contract cost, $281,850.

The estimated costs for these support needs are shown below:

Figure 8: Project Coordination/Additional Personnel Costs *

Cost Description	Hourly	Weekly Costs	Monthly Costs	Total Cost*
Project Management Contractor				$294,399
DHHS Project Coordinator	$68	$2,720	$11,787	$282,888
Project Administrative Assistants	$57	$4,560	$19,760	$474,240
SUBTOTAL Project Coordination/Support				$1,051,527
Quality Assurance Contractor				$281,850
TOTAL PROJECT COORDINATION AND ADDITIONAL PERSONNEL COSTS				**$1,333,377**

* Estimated Project duration of 2 years.

IV.1.6. Summary of Project Costs (Non-Recurring)

Figure 9: Summary of Project Costs (Non-Recurring)

Cost Description	Cost
D&IC Contractor	$1,879,000
Central Processor Hardware/Software	$382,500
Personal Computers and Peripherals	$545,932
Telecommunications Installations	$42,400
Project Coordination & Additional Project Support	$1,051,527
Quality Assurance Contractor	$281,850
User Training	$113,699
TOTAL	**$4,296,908**

IV.2. *Results of the Cost Benefit Analysis*

The Nebraska WIC program has diligently invested in the continued viability of its legacy system since its initial implementation more than a decade ago. Over the years, the system has become increasingly unstable and is rapidly nearing a fail point. It is anticipated that the cost and risks requirements of upgrading and modifying the legacy system would far outweigh the performance benefits it could offer.

The non-recurring cost to transfer the MPSC system is estimated to be $4,296,908.

As noted in the Alternatives Analysis, the estimated annual cost of in-house operations and maintenance is $494,780. The estimated annual cost of the hybrid operations and maintenance option is $759,940, and the estimated annual cost of outsourced operations and maintenance is $834,168. Based on these estimates, the most cost-effective approach is in-house operations and maintenance. However, it is possible that for market reasons, or economy of scale should other states contract with the developer to operate their systems, the hybrid or outsourced options may be less costly. This will not be known until bids are received. Regardless, there is no anticipated budgetary savings to be derived from implementation of any of the operations and maintenance alternatives. In fact annual operations and maintenance costs for the new system are expected to increase by approximately 80% over the current Nebraska WIC system operations and maintenance costs. This is in large part due to the obsolete equipment and architecture of the current system and the inability to make any substantive modifications and enhancements to the system. Nebraska has struggled for some time simply to keep the current system operational, primarily with a 'hands off' approach. The new system, with its server farm and communications requirements, will require considerably more staff time and expertise to operate and maintain.

Nevertheless, the alternative of transferring the MPSC system offers several intangible benefits, including:

- A strong fit with the Agency's organizational capacity and business model;
- Realization of the model WIC functional requirements with all attendant enhancements to service delivery, economies, and reporting capacities;
- EBT functional readiness; and,
- A robust architecture supportable by industry for at least a 10 year lifecycle with little modification.

Thus, it is prudent to recommend the transfer of the MPSC system with modifications as necessary and affordable to better meet the Nebraska requirements. A decision on the most cost-effective approach to system operations and maintenance, be it in-house, hybrid, or outsourced, will be made based upon the most advantageous solution for the state upon receipt and evaluation of IRFP bids.

V. Attachment: Nebraska WIC Functional Requirements Document/Traceability Matrix

[Please see NE FINAL FRD Requirements Spreadsheet rev 3_19_13.xls, attached]

NE FINAL FRD
Requirements Spreads

VI. General System Design

VI.1. *Background*

This section of the IAPD presents the general system design. The section includes the following materials:

- Background;
- Hardware Plan;
- Software Plan;
- Telecommunications Plan;
- Test and Implementation Strategy; and,
- Conversion Plan.

VI.1.1. Selected System

The new Nebraska WIC MIS will be a transfer of the Mountain Plains States Consortium (MPSC) State Agency Model (SAM) system. The combination of extensive functional design meeting all functionality as set forth in the USDA/FNS Functional Requirements Document for a Model WIC System (USDA/FNS 2008) and centralized web-based operation for multiple clinics as engendered in the MPSC SAM system will bring Nebraska into the next generation of WIC systems. The information and system schematics in this General System Design are drawn in part from the MPSC system technical documentation. Complete technical documentation for the MPSC system, inclusive of the Detailed Technical Specifications Document (DTSD), is in the public domain and may be found on the USDA/FNS web site at the following URL: http://www.fns.usda.gov/apd/library/MPSC_docs.htm.

The MPSC system is based on the .NET Smart Client architecture developed and supported by Microsoft. The specification from Microsoft is based on a Service-Oriented Architecture, in which individual systems are implemented as interoperating sets of services, using common frameworks, standards, and practices.

VI.1.2. System Overview

The clinic application in a WIC system contains the business rules that support clinic level operations, such as appointment scheduling, participant certification, food instruments (FI) or EBT issuance, documentation of nutrition education, food package changes, mid-certification updates and edits, participant transfers, and reporting. In addition, local agency functionality includes some distributed vendor management functionality inclusive of routine monitoring. The state office application contains the functions for statewide reporting, vendor management, financial management (including communications with the bank for check based systems or host processor for EBT), food

instrument reconciliation, Program integrity, and dual participation oversight. Both the clinic application and the state office application will be housed on the central processor, along with the relational database that contains all of the participant records.

The MPSC system was designed to be virtually paperless. WIC staff personnel in a clinic who has contact with participants have their own workstation. Data is entered directly into a participant's record, eliminating paper files. In addition, signature capture, both for participants and for WIC staff as needed, is done through the use of electronic signature pads. Clinics have either one, two or three printers, depending on their size. Larger clinics generally have one or two printers reserved exclusively for printing checks and another for printing all other reports and forms. Smaller clinics may have a single printer with two paper trays. The differences and types of printers to be used are explained in more detail in Section 1.2 Hardware Plan.

The term "server" is often used to refer to both a type of hardware and a software application. The central processor(s) (hardware) in the Web-based system will house three types of software; an application server, a web server and a database server. The application logic and business rules of the system are part of the application server. The database and web application server provides the interface between the records in the relational database and the application. The Web server handles communication, data marshalling and Remote Procedure Calls (RPC) over HTTP via the Internet and makes the data and application available to the clinics through a web-browser on the WIC system PCs.

Large, multiple user clinics require a high bandwidth (*i.e.* high speed) connection in order to provide adequate response time. If an on-line clinic is permanent and large enough to require multiple workstations, a local area network (LAN) can be installed and the internet may be accessed by the LAN server. There are some clinics that currently do not have Internet access, or have inadequate access. (For this discussion inadequate refers to lack of sufficient bandwidth, Service Level Agreements (SLA) or other constraints for the number of users in a given clinic.) During this project, telecommunications to these clinics will be enhanced.

VI.1.3. <u>System Architecture</u>

Virtually all of the geographic states WIC Programs operate their system independently of all other state WIC Programs. This is true whether the architecture is for a distributed, web based, or on-line system. The architecture of each system generally consists of three components – the clinic application, each respective state's agency application, and its central processor. The system typically aggregates data on three levels – the clinic level, the local agency level, and the state level.

Security of data on the central processor and during transmission from clinic sites and the state office to the host will be of paramount concern. As explained in the hardware plan below, the central processor will have built in redundancy and back up procedures. Since the Internet is a public network, data will be encrypted during transmission. Section XII of the IAPD contains the complete security plan.

The MPSC system uses an n-tier approach of software application partitioning in order to achieve the design and performance goals of the system. The n-tier architecture for the MPSC system is further specialized using the framework provided by the Microsoft "Smart Client Architecture". This is based on the premise of handling all major processing and business steps on or as close to the client as possible. The diagram below illustrates the logical architecture of the MPSC Smart Client system. The second diagram shows the overall architecture of the system.

Figure 10: MPSC Logical Architecture

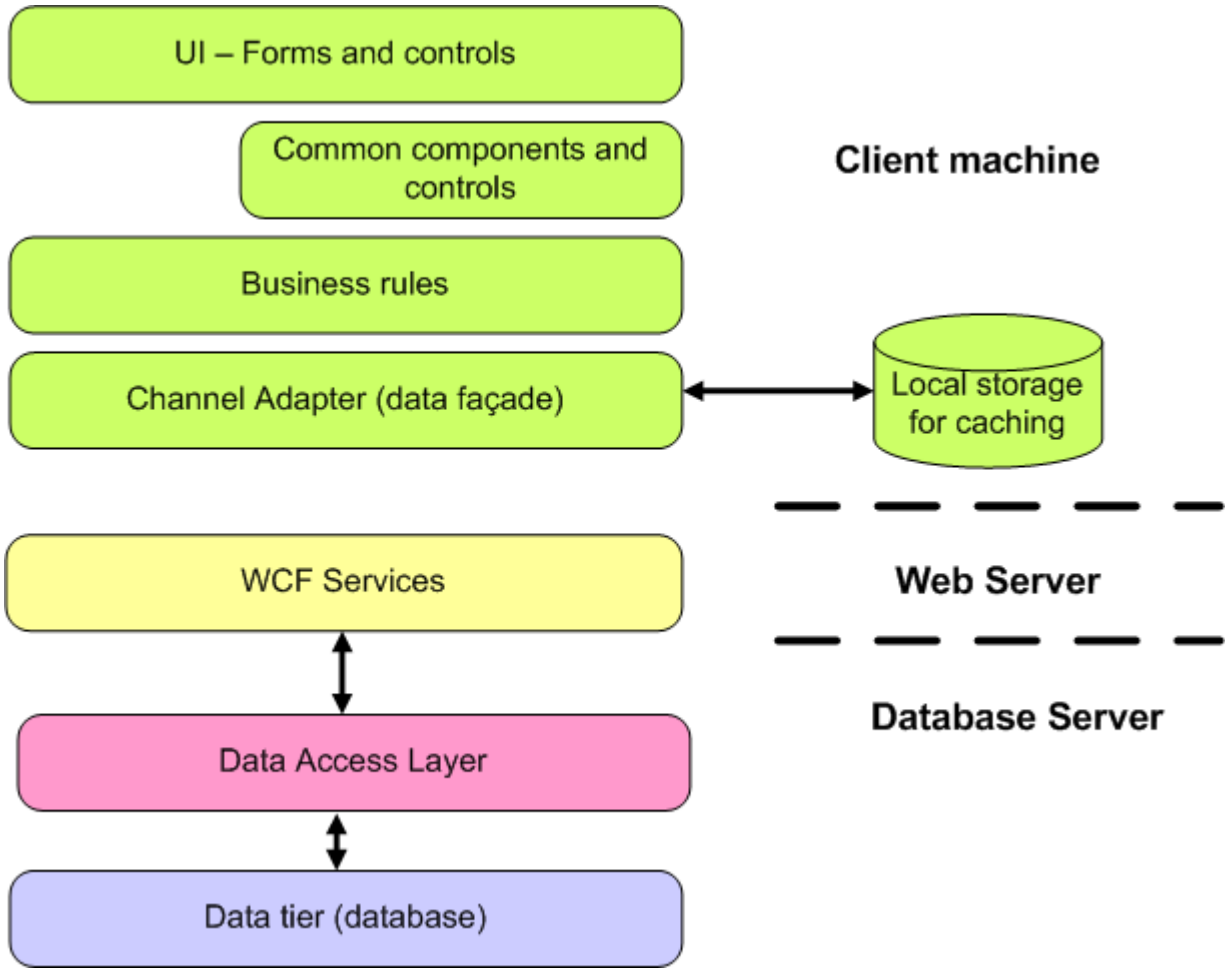
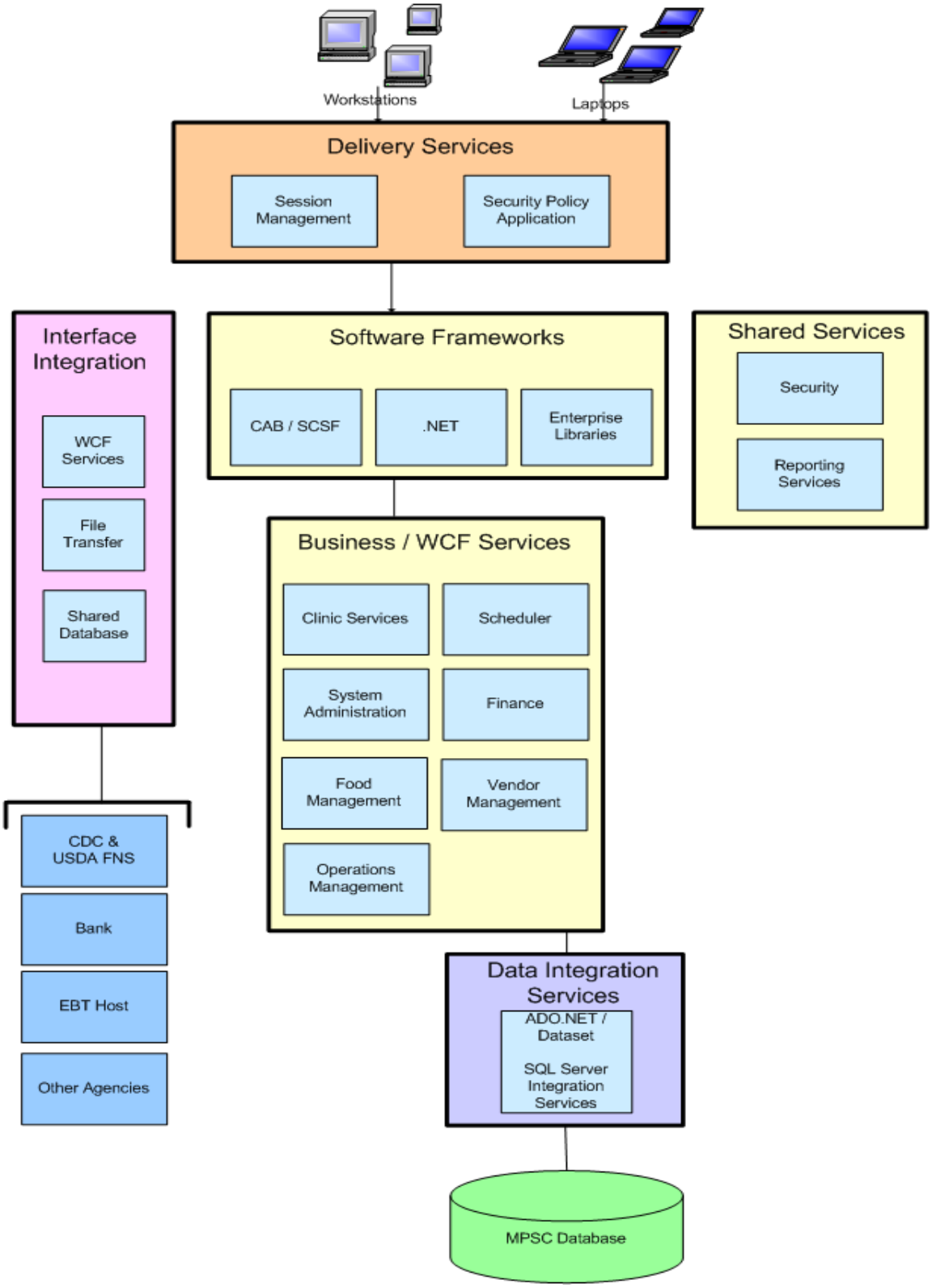


Figure 11: MPSC Overall Architecture



VI.2. *Hardware Plan*

VI.2.1. Clinic Hardware Needs

Standardization of hardware has traditionally been considered a highly desirable feature of WIC system development projects. However, the thick or smart client design of this system makes hardware standardization less critical. It will be a requirement for the state and each local agency to use the same version of Windows and the same browser on all their PCs to assist in trouble shooting.

Nebraska has an installed base of PCs and laptops in their clinics of varying age and technical specifications. Even the most recently purchased equipment will be two or three years old by the time the new system is implemented. Additional PCs will need to be purchased to provide all staff with their own workstation during clinics. Many of the current PCs may not use the most current version of Windows, but any new PCs purchased in the next few years will come with the current version of Windows (7 or later) installed. Upgrading older PCs to the latest version of Windows can be problematic, and may not be financially feasible. Nebraska has reviewed their current PC inventory and determined that approximately 70% of existing PCs will need to be replaced. This will include a combination of desktop and laptop/notebook computers.

Remote access to the server and workstations using Terminal services or other software will be required. Firewalls will also need to be monitored and configured remotely. The state offices will require the ability to use remote asset management software and the ability to push out revision, driver and operating system changes. These requirements will be addressed in the SLAs established with the local agencies.

In order to ensure the same brand and model of PCs are purchased to support the system the State will procure all needed equipment. The equipment will be purchased under the terms of an existing State contract with Dell. In addition, a set of minimum technical standards has been developed. Any PC connected to the new system must meet these minimum standards. For planning purposes, the following standards are used. However, given the historical trend in PC technology, it is likely that the agencies will be able to purchase hardware far exceeding these standards for the same or less money. It is likely the standards will be revised and upgraded closer to the time of implementation.

The minimum technical standard for a desktop workstation is:

Dell OptiPlex 390

Processor - Intel® Core™ i3 2120 Processor (3.3GHz, 3M)

Operating System - Windows® 7 Professional

Memory - 2GB DDR3 SDRAM at 1333MHz

Minimum technical standard for a desktop workstation (cont.):

Hard Drive - 250GB SATA

Video Card - Integrated Video, Intel® HD Graphics 2000 (1HDMI & 1 VGA)

Optical Drive - 8X Slimline DVD-ROM

Monitor

Telecommunications -

Network Interface Card

Cable modem, or

Satellite modem

The minimum technical standard for a laptop workstation is:

Dell Latitude E6420

Processor - Intel® Core™ i3 (2330M)

Operating System - Windows® 7 Professional

Memory - 2GB DDR3 SDRAM at 1333Mhz

Hard Drive – 250GB

Video Card - Intel® HD Graphics 3000

Optical Drive - DVD-ROM, DVD+/-RW

Telecommunications -

Network Interface Card

Cable modem, or

Satellite modem

VI.2.2. Clinics with Adequate Telecommunications

On-line clinics will connect with the Internet through a high-speed "always on" connection. In multiple staff (*i.e.*, multiple PC) clinics, the computers must be equipped with an Ethernet card to enable them to connect to a router and switch in a LAN environment. In these clinics, the Internet connection may run to the router rather than an individual PC. For permanent clinics, computers will use wired connections. For

satellite clinics, a wireless LAN meeting at least the 102.11.g standard will be used for larger clinics requiring multiple staff. This will allow the added security that (Wi-Fi protected access) WPA provides.

VI.2.3. Clinics without Adequate Telecommunications

It is Nebraska's intention to attempt to ensure all clinic sites are provided with adequate, high speed internet connections to support the web based system. It is possible that in some rural sites, cable or other direct line internet access will not be available. For these sites Nebraska intends to use wireless internet air cards. Should any sites not be able to access the internet by any means, the system will support disconnected operations. However, should this occur, Nebraska will explore potential alternatives sites to achieve connectivity at all clinic sites.

VI.2.4. Printers

Printers are needed in state offices primarily to print reports and letters. Printers are needed in clinics primarily to print food instruments (FIs), reports, mailing labels, educational materials, and forms.

For FI printing, Nebraska anticipates using the Source Technologies (Lexmark) MICR ST9620 in stationary clinics and the Source Technologies (Lexmark) MICR ST9612 for mobile sites.

VI.2.5. Summary of Clinic Hardware Inventory Requirements

The following table summarizes the estimated number of desktop computers, laptop computers, MICR printers and other peripherals needed by each agency for all their clinics. Where staff travel to satellite clinics and the same laptop(s) are used for multiple clinics, this has been factored into the count.

Figure 12: Agency and Clinic Hardware

Item	Brand & Model	Total Units
Desktop + Monitor	Dell Optiplex 390	185
14" Laptop	Dell Latitude E6420	82
Compact Desktop Scanner	Canon imageFORMULA DR-2010C	65
Networked Desktop Scanner	Kodak Scan Station 500	2
Signature Pad	Topaz SignatureGem LCD4x3 (T-LBK755SE-BHSB-R)	222
MICR Printer - Stationary	Source Technologies (Lexmark) MICR ST9620	44
3-yr Exchange Warranty	For MICR ST9620	66
3-yr Next-Day On-site Warranty	For MICR ST9620	7
MICR Printer - Travel	Source Technologies (Lexmark) MICR ST9612	29
CERT Printer - Stationary	HP LaserJet P2035n	39
CERT Printer - Travel	HP OfficeJet 100	29

VI.2.6. State Office Hardware Needs

The hardware requirements of state offices depend as much or more on the number of staff that simply need access to a PC as the number that need access to the state agency application on the central processor. The Nebraska State Agency has a local area network in place. The agency has access to the Internet. Speed of transmission, and the bandwidth necessary to provide rapid speed, is not as critical for state agency applications as it is for the clinic application, where response time affects service delivery to participants.

The existing, installed base of hardware in state level offices is technically sufficient to operate the state level application. It would be desirable to have the State Agency using the same operating system as the clinics, although not as critical as with the clinics. The plan for this project is to have Nebraska replace their state office hardware on their normal replacement cycle, with the goal of eventually having all equipment running on Windows 7 or some later version of Windows OS.

VI.2.7. Central Processor Hardware Needs

WIC clinic systems must be totally reliable; if the system is not functional for any reason while the clinic is open, it prevents the delivery of services. In a centralized, on-line system, all of the clinics are dependent on the central processor. Consequently, the central processor site must be available during normal business hours. In addition, Nebraska spans two time zones, so the hours of availability must be expanded accordingly. Finally, some Nebraska local agencies conduct evening and Saturday clinics, so the system must also be available to meet this need.. It is expected that the system will need to be available Monday through Saturday from 7:00 am to 9:00 pm. If available, there should be a service level agreement (SLA) in place.

The central processor will use a "server farm" containing two backup/disaster servers, three web/application servers, one warehouse/report server, two Storage Area Network (SAN) servers, and two SAN infrastructure servers. Backup/disaster services will be located in a separate facility. The primary servers are the Web servers (to manage the Web site), the Application servers, and the warehouse/report server, along with managed switches and routers to help direct data traffic. They will provide the processing power for the operation of all clinics using the system, and house all of the data for all agencies. The central processor will be designed with fault tolerance to provide for continuous operation of the system in the event of failure of any single component. RAID and mirroring will be used to provide redundancy and parity checking. The technical specifications of the servers will be determined closer to the start of development, but will be comparable to the following:

Figure 13: Server Technical Specifications

Item				
	DELL Server Model	**Number of Servers**	**Number of Processors**	
Database Backup/Disaster Recovery	R710	1		2
Database Backup/Disaster Recovery	R710	1		2
Web server (IIS)/Application	R310	1		1
Web server (IIS)/Application	R310	1		1
Web server (IIS)/Application add'l	R310	1		1
Warehouse/Report Server (SQL)	R710	1		1
SAN (Storage Area Network)		2		
SAN Infrastructure		2		
[redundant switches, network cards, etc.]				
[capable of real-time data synchronization]				

In addition, there will be a Uninterruptable Power Supply (UPS) to provide continued operations in the event of a power failure, a backup device (Tape, RAID, SAN, etc.), and telecommunications equipment, including a firewall. Where applicable, the UPS should have the ability for un-attended graceful shutdowns and restarts in the case of a total power failure.

VI.2.8. Hardware Maintenance

Dependent upon the option selected for hosting the system (e.g., state or contractor) Nebraska may need to arrange hardware maintenance contracts, either through their hardware vendor or independently. Maintenance agreements will specify maximum response and repair times.

VI.3. *Software Plan*

VI.3.1. Clinic and State Office Operating Systems and Browsers

As referenced earlier, all local agencies will be expected to use the same version of Microsoft Windows (currently MS Windows 7) and the same version of browser (the current MS Explorer) initially. This will reduce the variables for trouble shooting problems. As local agencies and the operator become accustomed to the system, it is assumed that agencies will be able to upgrade their operating system and browser in accord with their own agency standards and policies.

For all of the clinics that operate online, which will be the vast majority if not all, no other system related software will be installed on the PCs. Some browser-based systems are designed to download small pieces of the application from the host to the browser in the form of Java applets or ActiveX components at the beginning of the day. There may also be scripting languages in the Web pages that run the application. These tools allow faster response time, because items such as the choices in dropdown menus are available locally. However, these pieces of file are temporary, used for that session only. (A session may be an entire clinic day.) They are automatically replaced by the system at the start of the next session. Consequently, they are not considered separate software items that need to be installed and maintained.

It is anticipated that local agencies will install office automation software (*e.g.* MS Office Suite) on their hardware as needed for producing letters and other materials. All equipment purchased for the new system will have the appropriate office suite pre-loaded. However, local agency installations will not be granted system administrator rights to prevent non-approved software from being loaded on WIC PCs. These restrictions will also be addressed in Nebraska WIC policies and procedures and adherence to these restrictions will be monitored during the conduct of management reviews.

VI.3.2. Central Processor Database and Application Languages

The central processor will require relational database software for participant records, programming languages to provide the visual front end, and communications and marshalling software to manage traffic and data.

The MPSC system uses MS SQL Server as the database. Front ends and middleware objects have been written in .NET. The presumed operator of the system (either DHHS IS&T or a contractor) must have a basic level of technical competence with all of the software used. The Nebraska IT department is primarily a Microsoft shop (SQL Server) and currently operates several .NET systems.

VI.3.3. Communications Software

Clinics may need software supplied by their Internet Service Provider (ISP) and/or their modem manufacturer to make the connection to the Internet. All other communications capability required to use the World Wide Web is built into the Windows operating system and the Web browser.

VI.3.4. Technical Documentation

Although the new Nebraska system will be based on a transfer of the MPSC system, some modifications will be necessary to meet the specific functional requirements of the State. The functional modifications will be determined in joint application design (JAD) sessions involving select members of the State and local agency WIC staff, State IT staff, the quality assurance contractor, and the system contractor. In these sessions, which typically last a few weeks early in the project schedule, any functional changes to the transfer system will be agreed upon and recorded. Based on the results of these sessions, the system contractor will produce and submit a Detailed Functional Design Document (DFDD) for the Nebraska WIC system. The DFDD will document all of the functional requirements for the system and will include any changes agreed upon during the JAD sessions. The contractor will also produce an updated Detailed Technical Design Document, as needed.

VI.3.5. Backup, Recovery, and Data Synchronization

On-line Clinics

For all clinics that operate on line, there is no data stored on the local systems, so there is no necessity for backup and recovery plans.

Off-line Clinics

Nebraska does not intend to operate off-line clinics. However, should this be unavoidable, the following considerations will pertain. For any clinics that operate off-line, it is expected that they will download a copy of the clinic caseload from the central processor at the beginning of the clinic day and upload their transactions to the central processor at the end of each clinic day. The system currently has functionality to allow clinics to upload a file with a day's transactions to the central processor. The data synchronization functions are handled by the central processor.

The off-line clinics are expected to be small, with limited transaction volume each day. However, it is still recommended that data be periodically (*e.g.* every two hours) backed up to a RW CD, RW DVD, USB flash or other high capacity storage device during the day to prevent loss of data. All backed-up data will be encrypted.

State offices

The Nebraska State office will access agency wide data for the state's agencies that is stored on the central processor. Staff may download working copies of some files for analysis in their office (e.g., financial management or caseload information), but the official version of the data will always reside on the central processor. Consequently, no formal backup and recovery processes are required for state offices.

Central Processor

The central processor (and the mirrored backup/disaster servers) will have the only complete, up to date copy of the data for all Nebraska WIC agencies. Consequently, it is critical that the central processor has comprehensive backup and recovery procedures built into its operation. This will include mirrored redundant hard drives, as well as removable disk back up.

VI.3.6. Data Sharing With Existing Systems

The Nebraska WIC System will be a stand-alone system. It will not be designed initially to electronically interface with any other data systems. However, it will create certain data files to be exported for use by other systems. At a minimum, it will have functionality to produce the following files:

- Data for the biennial FNS Participant and Program Characteristics (PC) reports.
- Data for the Integrity Profile (TIP) reports.
- Data for dual participation checking with other state WIC Programs.
- An FI issuance file, a file of authorized retailers, listing of vendor peer group assignments, and Not to Exceed amounts for FI types by peer group for the financial intermediary (bank) that handles the WIC account.

In addition, the system will receive files from external entities, including the following:

FI/EBT Redemption File

Dual Participation Files

VI.4. *Telecommunications Plan*

Insuring adequate and reliable telecommunications between the central processor, the state agency and each of the local agencies and clinics will be a key element in the successful implementation and operation of the Nebraska system. For some agencies, the telecommunications network will require both installation of new high speed data lines and contracting with an Internet Service Provider (ISP).

Preliminary surveys have been conducted with each local agency to determine the present state of their telecommunications capability. From this, cost estimates for upgrading networks and for ongoing operations cost have been developed for planning purposes. As the development phase of the project begins, more thorough, on-site surveys will be conducted prior to installing the new networks. Telecommunications is a rapidly developing industry. The options available by the time the system is ready for implementation may be different from the options available today. The key in planning for this system will be to make final decisions on telecommunications upgrades late enough in the project to insure the most current and cost efficient technology, while also insuring that upgrades are completed in time to avoid delaying the project.

VI.4.1. Communications Options

A key consideration in selecting an ISP is how much bandwidth is accessible through their broadband service. Broadband access is a much more viable solution in a .Net environment than phone dial-up access. The MPSC system developer has recommended the following bandwidth by number of workstations as optimal for supporting the system: 1 workstation – 256Kbps, 2 to 5 workstations – 750Kbps, 6 or more workstations – 1500Kbps.

Broadband is a transmission facility having a bandwidth sufficient to carry multiple voice, video or data channels simultaneously. Each channel occupies (is modulated to) a different frequency bandwidth on the transmission medium and is demodulated to its original frequency at the receiving end. Channels are separated by "guardbands" (empty spaces) to ensure that each channel will not interfere with its neighboring channels. This technique is used to provide many CAT V channels on one coaxial cable. 10Broad36 is the only broadband Ethernet media type. The different modes of transport are ADSL, DSL and HDSL with ADSL (Asynchronous Digital Subscriber Line) being the most prevalent in use by ISPs.

Larger clinics with more staff using the system concurrently create more data traffic over the communication line. The capacity to handle more data and provide faster response times is known as bandwidth. Clinics that need high bandwidth connections (also referred to as broadband) have a variety of options ranging from DSL lines, to T-1 lines, to cable and satellite services.

DSL lines are provided through the phone company, but are not yet available everywhere. In addition, the location using it must be within a specified distance from the host. Cable Internet service is available through the companies that provide cable TV service. Depending on the company, it may be purchased by itself, or it may come "packaged" with TV service. T-1 lines provide the greatest bandwidth and therefore the fastest response time of any landlines. However, they are also the most expensive, and are not necessary for all but the largest WIC clinics. A T-1 line is actually twenty-four separate channels, each of which supports 1.54Mbits per second.

The other alternative to installing landlines is the use of satellites. The satellite providers offer high speed, wide area Internet service using satellite uplinks. Signals are relayed to a small dish that is mounted on the exterior of the clinic facility and pointed at the southern sky. The signal is carried from the dish into the facility by wire. Data is triple-encrypted during transmission, to provide a level of security at least as great as that provided by landlines. This encryption is based on the Data Encryption Standard –3 (DES-3) encryption algorithm. Even though the satellite service does not use wires, the location of the dish must be fixed; it cannot be moved around to part time clinic locations. When it is first installed, it is configured by the company for that location.

For portable satellite clinics that cannot install a permanent dish, the final alternative is use of an aircard. An aircard is a high speed wireless broadband card that gives users mobile Internet access on their laptops, using their cellular data service. Aircard modems

come in USB, PCMCIA and ExpressCard versions. Aircards are also known as broadband aircards, cellular aircards, aircard modems, internet aircards, and wireless aircards. To use an aircard, clinics will need a data plan with a wireless provider. Mobile broadband plans typically are around $60/month. While slower than a direct communication line, aircards have been demonstrated to be a viable solution for small satellite WIC clinics.

Any of the broadband services can be connected to a router and switch that makes the service available to all of the computers connected to the router. Broadband connections are usually "always on," as compared to dial-up connections. That is, any time the computer is on and the browser is open, the system is connected to the host. This makes it imperative that there is a secured hardware firewall (NAT, encryption, etc.) in place to secure both the network and data from outside intrusion.

The other aspect of communications that must be considered with a Web-based system is that some telecommunications lines are asymmetrical. Traditionally, most web sites were designed to download more data than they upload. In some communications lines, more bandwidth is available for downloading than uploading. Consequently, the upload process tends to be slower. In a WIC application, there is considerable information going both directions. Consequently, clinics may need to use the types of lines that are less asymmetrical or provide for somewhat greater capacity than they would otherwise require.

VI.4.2. Bandwidth

As described above, adequate bandwidth is a function of the number of concurrent users in a given clinic or local agency. One WIC system developer that has experience with this approach in one of their client states has developed recommended standards. In relation to use of their WIC system, they define three levels of clinic and corresponding bandwidth requirements. They are:

- Small clinics - One to three users; Cable or wireless internet air card
- Medium size clinics – Four through seven users; ISDN, DSL, or Cable
- Large size clinics – Eight or more users; DSL or T-1 Service.

Since the functionality of all the current generation of WIC systems is similar, it is reasonable to assume for planning purposes that the standards established by the developer cited above would be appropriate for the Nebraska system, too.

An additional consideration in the telecommunications infrastructure involves the administrative structure of the local agencies. In some cases a local agency and clinic are co-located. In others local agencies may 'parent' several clinics under their administrative structure. Nebraska also has some local agencies with sub-agencies and clinics residing under both. These variations in administrative structure can be problematic for distributed client/server systems as it is necessary to roll up clinic data to

the parent agency level prior to communication to the central database. However, with the web-based solution this data roll-up may occur at the central processor and need not be addressed in the telecommunications plan.

VI.4.3. Data Quality and Transmission Standards

The functions to ensure data quality and successful transmission will reside at the central processor site, rather than in the clinics.

VI.4.4. State Offices

As with the clinics, the number of state office users attempting to access the central processor concurrently affects the required bandwidth. However, unlike clinics, state office use of the system is determined by the workload associated with each agency. Consequently, it is neither practical nor necessary to identify specific bandwidth requirements based on the number of staff. All Nebraska state agency staff currently have access to the Internet from their state offices. The type of connection was established based on current needs, such as providing email capability and accessing large State systems, such as Medicaid. In addition, the Nebraska WIC staff have accessed and utilized the MPSC sandbox on numerous occasions and have found the system response to be quite sufficient to their needs. Staff at the State WIC offices are supported by T1 lines. An internet connection speed test was conducted on State staff PCs and yielded the following results: average download speeds – 82Mbps, average upload speeds – 25Mbps. These connection speeds are significantly higher than those recommended by the MPSC system developer for large local agency connections. As State Agency staff data transmission needs are significantly lower than those for WIC clinic staff serving participants, Nebraska is confident that State staff have sufficient telecommunications capacity in place to utilize the new system.

VI.4.5. State Agency Central Processor Sites

Bandwidth

The central processor site requires a high bandwidth, high capacity connection with the backbone of the Internet, such as more than one T-1 line. It is estimated that Nebraska will need 3 or more TI lines to handle their case load, based on installations of the system in Utah, Colorado and Wyoming. Should Nebraska operate the system in-house, the system will be housed at the State data processing center. The processing center is already supported by multiple T1 lines as it operates numerous statewide systems. Nebraska IS&T has assured the WIC Program that sufficient bandwidth, should sufficient excess not be available, can easily be added to support the system. . The capacity of the current networks must be evaluated in consultation with the D&IC to determine whether sufficient excess capacity is available, or whether additional lines must be added.

Nebraska WIC supports 13 local agencies and 110 clinics serving 43,000 participants per month. Peak volume of transactions on any given day is measured by the number of participant records accessed. Peak volume of participant records for Nebraska is likely to

be approximately 3000 records per day, 375 records per hour. This is about 6 records per minute. This information, along with other system details (e.g., average record size and whether entire records are sent over the network or just screen updates) and current excess capacity of the network will be assessed once the system is finalized to determine whether any additional capacity must be acquired.

Data Quality and Transmission Standards

The communications software on the central processor will contain error detection and correction algorithms to prevent erroneous data from being added to the database. In addition, the server operating system software will include the capability of monitoring many operational variables, such as server capacity utilization and data input/throughput speeds, and automatically or manually adjusting data routing to different servers to optimize system performance.

VI.5. *Test and Implementation Strategy*

VI.5.1. User Acceptance Test

In most WIC system development projects, much of the actual development work and testing is done in the contractor's facilities, regardless of the state in which the system will be implemented. Once system development is complete, and the contractor is confident that the system performs according to specifications, a copy is turned over to the client for User Acceptance Testing (UAT). That will be the case with the Nebraska system as well. Should the central processors be in-house operations, DHHS IS&T will work closely with the developer during some phases of development and during UAT. For example, the hardware for the central processor will be purchased and installed during development. While the developer will first test the application on its own servers, the developer will also install it on the operator's WIC servers for additional testing prior to the formal User Acceptance Test process.

The User Acceptance Test is a critical aspect of the system development and implementation process, and its' importance is often underestimated. The contractor is responsible for various types of testing (e.g., unit, string, regression, and stress testing) during development. When the contractor turns over the system for acceptance testing, it is theoretically finished, functional, and error free. In reality, WIC systems are incredibly complicated and virtually never work perfectly when first presented to the client. The User Acceptance Test is an opportunity to identify problems and get them fixed before subjecting the system to the real world test of a pilot site. The extent of the UAT required for the Nebraska system will be dependent upon the number of system modifications undertaken for the Project.

The UAT is a highly scripted process. Scenarios will be written to test every function and combination of functions the system is expected to perform, both at the clinic level and at the state office level. The scripts and the testers will be guided by an "order of process" that specifies the order in which each function must be tested. The test will begin with database populated by converted data. Dummy records will be created as part of the script and entered by hand in the system to test the edits. Reports (such as clinic

enrollment and participation) will be run and the results compared with a manual count of the expected outcomes to insure that the reports calculate correctly.

UAT is expected to be completed in two stages, requiring approximately sixteen (16) weeks (or potentially less dependent on the number of changes made to the software) inclusive of set-up and training. A "test bed" of computers connected to the central processor will be established. Several volunteers from Nebraska agencies will be recruited to assist the state staff in the testing. The test will begin with Round One and will attempt to complete a pass through all test procedures. In the event there are a high percentage of errors or critical errors, Round One will not complete a full pass through the test script. At either point (completion of all test procedures or test halt for cause), the contractor will be provided a list of outstanding errors and bug fixes. However, during the testing errors will be reported as they occur so the majority of the final list will already be known to the developer, and they will have commenced error remedy. The contractor will be given a period of time – a week to a week and a half depending on the length of the list – in which to complete fixing the problems. The testers will reconvene for a second, abbreviated round of testing. The known errors will be tested to insure they are fixed. Additional scripts will be run to ensure that other errors are not created in the course of fixing the original bugs. If any errors remain following the second round of testing, these will be provided to the contractor for resolution. Depending on their severity, an additional round of testing may be required. Testing will continue until such time as all serious (non-cosmetic) errors have been remedied and the system can complete all tests without error.

When the system can successfully complete all tests without significant error, both the D&IC and the QA contractor will be required to provide certification of the system's readiness for Pilot Test. The Pilot test will not be initiated until the State accepts and concurs with both parties certifications.

VI.5.2. Pilot Test

Once UAT is successfully completed, a pilot test will be conducted. The initial pilot sites will include two local agencies and their associated clinics. The pilot agencies will be selected by the State based on a simple set of criteria; the pilot agencies must be located close to Lincoln to allow for monitoring of the pilot sites by State and contractor staff, the selected agencies will be of medium size in regards to caseload to reduce impact on clinic staff and participants, the agencies must be supported by experienced WIC staff to ensure the pilot is not adversely affected by inexperienced staff, and the selected Pilot agencies must be willing to participate to ensure their full support in the effort. The pilot for the initial sites will last approximately three months. Once Pilot is successfully completed, a phased in roll out of the system to the remaining agencies will commence. The rollout process is anticipated to require approximately two months.

In traditionally distributed WIC systems, the phased-in rollout requires installing software on each PC or clinic server, and the schedule is limited by the ability to get to all the sites. In a web-based system, the only on-site work required (in addition to system training) will be to upgrade telecommunications networks, which will be done in advance

of rollout. Data from the old system must be converted (see following section), but this will not significantly affect the schedule. In some of the local agencies there may have to be some on site hardware configuration and installation.

VI.6. *Conversion Plan*

VI.6.1. Automated Conversion

The goal of the conversion process is to add as many records as possible from the legacy systems to the new system through an automated process. To accomplish this, it will be necessary to convert all of the client and vendor data in the legacy system to the format required by the new system. There are a number of subtasks to this process that will need to be duplicated for each local agency. The decision making process and the actual work of these subtasks will be a joint responsibility of the state and the contractor. The primary subtasks are:

- Map the data elements between the legacy system and the new system.
- Determine default values for required data elements in the new system that are absent from the legacy system.
- Determine how data elements with incompatible length and/or type between the legacy system and the new system will be handled.
- Determine how data elements with stricter edit requirements in the new system will be handled if they fail the edit checks during conversion.
- Determine and implement any data "clean up" procedures in each agency that can improve the data conversion process
- Determine how required data elements that have been assigned default values by the automated conversion process will be populated with actual data once the automated conversion is completed for a clinic.
- Design, code and test the conversion routines (contractor responsibility).
- Convert data to be used in the UAT (contractor and/or system operator responsibility).
- Convert the data for each site just prior to system implementation for that site and populate the default values in that site's records. (contractor and/or system operator responsibility).

One of the contractor's deliverables will be a conversion plan that addresses each of these subtasks.

VI.6.2. Manual Conversion

There is always the possibility that some participant or vendor records may not be converted through the automated process. A few records may need to be entered by hand using the information available from the hard copy of the participant or vendor files.

As part of the process of developing the conversion plan, the contractor will recommend a back-up plan in the event of an unforeseen inability to automatically convert records.

VII. Capacity Study

This chapter of the IAPD presents a summary of issues related to system capacity for the Nebraska WIC MIS Project. Nebraska WIC intends to transfer an existing WIC system, MPSC. Assumptions made with regard to the system's capacity are based on evaluation of the State of Utah's implementation of this system.

Historically, capacity referred largely to space for additional files on mainframe computers. In today's IS environments, capacity considerations are often compounded by performance issues that may or may not be capacity issues in the historical sense of the word. That is, while the system may have adequate capacity as defined by space, memory, processing power and bandwidth, other factors may limit performance or optimal utilization of existing system capacity. These factors include the technical design and software architecture.

The information presented herein is intended to assist Nebraska WIC and the D&IC contractor to assess needed capacity, and define high level expectations for system capacity. Additionally, any known capacity limitations within the Nebraska WIC Program are defined.

VII.1. *Hardware Requirements*

The new web-based, smart client WIC system will require purchase of various equipment including the following:

- Web/Application servers;
- Database servers;
- PCs;
- Laptop computers;
- Electronic signature pads;
- Scanners; and,
- MICR Printers.

At a minimum state web/application servers and databases would need to be purchased to support a Web-based environment. In addition, software licenses for SQL Server would also need to be purchased. In addition, local agencies will require hardware upgrades including personal computers, scanners, signature pads, and MICR printers. In addition, the new system will require the use of scanners and signature pads as well as MICR printers (NE currently uses Dot Matrix printers). This new equipment must be purchased. Nebraska has also identified the need to replace aging PCs and laptops with new equipment. The current Nebraska system does not require significant PC capability.

The new system requires faster and more powerful PCs than currently exist in some Nebraska agencies.

These hardware requirements are described in further detail in the hardware plan in the General System Design section of this IAPD.

Nebraska will be responsible for purchasing required equipment for system installation and operation in their State Agency, local agencies, and clinics. The final minimum technical specifications for required hardware will be established in consultation with the D&IC. The brand and model of the printers will be standardized to ensure that the same system commands will work in all clinics. The local agencies and Nebraska State office (for printing compliance buy checks) will require MICR printers. The brand and model of these will also be standardized, and determined in conjunction with the laser printers to reduce the possibility of print command problems (e.g., the MICR printers may be a specially modified version of the same model of laser printer). However, should Nebraska receive approval to proceed with conversion to EBT concurrent with the new system project, card readers will be utilized instead of MICR printers for issuance of benefits.

VII.2. *Software Requirements*

The web-based operation mode of the new WIC system does not require any specialized software to be installed on the hardware in clinics or the Nebraska State offices. All that likely is required for the web-based system is the same version of the web browser (to lesson the chance of software conflicts).

This project does not include developing any office automation functions, although some clinic and state office components of the system may link to office automation software (e.g., word processing) for the generation of letters, notices, forms or reports. The Nebraska State Agency and the majority of their local agencies already have and use such software in their offices. It is not currently anticipated that purchase of any other office automation software will be required for the new system.

All of the software used by the central processors and clinic installations, inclusive of the application and databases, will be provided by this acquisition. The application will be public domain and will not require licensing. The D&IC will provide the software licenses for any commercial software applications used as part of their fixed price cost proposal.

VII.3. *Operational Capacity of Agencies and Clinics*

Many of Nebraska's local agencies are relatively small organizations and have none or very limited in-house IT capacity. These agencies must rely on Nebraska State Agency staff to assist with technical issues. Nebraska currently has a help desk operation that serves this need. Some agencies turn to their local IT departments for assistance in a limited number of cases. Nebraska will retain help desk services in support of the new system. Training will be provided to local IT staff where feasible while others may be

required to contract independently for whatever level of support they require. Each local agency will need to designate one individual who will serve as the local agency system administrator. This person may be the local agency director, a member of their WIC staff, or a member of the agency IT staff. This individual will serve as a liaison between the local agency staff and the IT resource(s) available. Consequently, all of the local agencies should be able to utilize the new system software without adding any new IT resources.

VII.4. *Operational Capacity of Central Processor*

The functioning of the new WIC system depends on the capability of the central processor to operate a site with virtually one hundred percent reliability. An operations contractor or Nebraska staff will operate the central site. The services of a database administrator, network administrator, and system operations and maintenance staff will be required to operate and maintain the system. Contract requirements will stipulate that the hardware platform be of sufficient capacity to accommodate the needs of the WIC system both at present and for expected future growth. In addition, the contract agreement will stipulate that the hardware platform either be WIC-dedicated or meet specific availability criteria. The current specifications for the central processor are based on the Utah central processor currently running the MPSC system. Utah's caseload is approximately seventy percent larger than Nebraska's (UT 73K, NE 42-43K) and their equipment was designed to accommodate expected Program growth for a ten-year period. Given this understanding, Nebraska is confident that the hardware specifications to be used for the Nebraska Central Processor will be sufficient to accommodate the Nebraska Program's expected growth for approximately 15 years.

VII.4.1. Performance Modeling

Performance modeling may be used to assess the system's performance capabilities. This is completed by forecasting the workflow and most common routines performed at the clinic level particularly those that are associated with client services. Nebraska will evaluate the new system and the manner in which it performs under peak business hour workloads during user acceptance testing and again during pilot. As with other aspects of system performance criteria, agreements for these performance measures should be reached by Nebraska WIC and the D&IC during the design phase of the project.

VII.4.2. System Capacity and Performance Evaluation

System performance evaluation is a measurement of the productivity of the system's hardware and software. Factors such as system throughput, growth and network capacity and usage will have direct bearing to a particular system performance measure. Transactions between the central processor and each of the external outlying systems with which it interfaces must be considered. This is due to the simple fact that during times of heavy usage during peak business hours, the system will have fewer resources available for other tasks. The other side to this is when there is less usage during off peak hours, the system performance would be perceived as being greater since it has more

available resources for other tasks. To verify system capacity and performance, stress and load testing should be conducted prior to UAT by the D&IC.

VII.4.3. Response and Turnaround Time

Response time is the difference between making interactive requests (HTTP, POP3, SOAP, etc.) and receiving response back from the requesting agent. As with system performance measurements, factors such as system throughput, type of request and network usage will have direct bearing on a particular system response time. As with other aspects of system performance criteria, these response time measures will be agreed upon by Nebraska WIC and the D&IC during the design phase of the project.

VII.4.4. System Availability

System availability is measured as the actual time the system is available to users during normal business hours of operation. It does not include those times set aside for preventive maintenance and system updates. This time can be represented as a percentage of the WIC system's availability during normal hours of operation. This period will be agreed upon during the design confirmation phase.

VII.5. *Telecommunications Requirements*

Nebraska intends to ensure that all clinic sites are able to access the new web based system via high speed internet connections. To this end, Nebraska has conducted a survey of the telecomm capacities of its local agencies and their associated clinic sites. Analysis of the results of this survey indicate that approximately eighty (80) sites currently lack sufficient telecommunications to support this need. The required equipment has been incorporated in the Proposed Budget for the Project provided in section X of this IAPD.

VII.6. *Current Workload Data and Expected Growth*

The following table shows Nebraska average monthly caseload for a twelve month period from April 2011 to March 2012.

Figure 14: Nebraska WIC Caseload

		2011									2012		
CATEGORY		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
15.a.	Women Pregnant	3,729	3,861	4,113	3,988	4,193	4,046	3,934	3,922	3,848	3,961	3,855	3,933
b.	Women Fully BF	1,175	1,197	1,200	1,177	1,279	1,295	1,305	1,291	1,304	1,343	1,307	1,346
c.	Women Partially BF	1,183	1,108	1,138	1,094	1,121	1,166	1,160	1,163	1,176	1,194	1,143	1,156
d.	Women Postpartum	3,092	3,096	3,148	3,074	3,152	3,195	3,187	3,175	3,217	3,307	3,195	3,092
e.	Total Women	**9,179**	**9,262**	**9,599**	**9,333**	**9,745**	**9,702**	**9,586**	**9,551**	**9,545**	**9,805**	**9,500**	**9,527**
16.a.	Infants Fully BF	983	997	994	962	1,033	1,047	1,099	1,075	1,059	1,069	1,050	1,109
b.	Infants Partially BF	1,514	1,455	1,462	1,418	1,462	1,498	1,484	1,497	1,502	1,540	1,458	1,488
c.	Infants fully Formula Fed	7,372	7,315	7,464	7,340	7,423	7,301	7,281	7,168	7,139	7,265	7,145	7,142
d.	Total Infants	**9,869**	**9,767**	**9,920**	**9,720**	**9,918**	**9,846**	**9,864**	**9,740**	**9,700**	**9,874**	**9,653**	**9,739**
17.	Children	**22,858**	**22,876**	**23,726**	**23,486**	**24,398**	**24,129**	**23,786**	**23,552**	**23,509**	**23,980**	**22,959**	**22,887**
18.	TOTAL	**41,906**	**41,905**	**43,245**	**42,539**	**44,061**	**43,677**	**43,236**	**42,843**	**42,754**	**43,659**	**42,112**	**42,153**

The table below shows Nebraska's projected caseload for the next ten years:

Figure 15: Projected Nebraska WIC Caseload

Caseload Projection Next 10 years	
FY13	43,250
FY14	43,590
FY15	43,932
FY16	44,277
FY17	44,624
FY18	44,974
FY19	45,327
FY20	45,683
FY21	46,042
FY22	46,403

As noted above, the system configuration is based on the model and capacity of the system successfully implemented in Utah. Utah's caseload of approximately 73k exceeds Nebraska's projected caseload ten years from the present. Therefore, Nebraska believes the new system will have more than enough capacity to accommodate expected Program growth over the lifetime of the system.

VIII. Project Management Plan and Resource Requirements

This section of the IAPD identifies the activities and level of effort that will be required of Nebraska to compliment the D&IC's responsibilities and to provide project oversight. Nebraska will assume the responsibility for project management. To this end, Nebraska has contracted with Burger, Carroll & Associates, Inc. (BCA), who is also the planning contractor, to provide for Project Management support for the duration of the Project effort.

In addition, Nebraska will designate or hire a person to act in the role of DHHS Project Coordinator. The Nebraska DHHS Project Coordinator will organize and facilitate Nebraska's contribution to the project and will communicate regularly with the Project Manager. At present, Nebraska has received approval of its PAPD for EBT planning. Upon submission of the EBT IAPD, should Nebraska receive approval to proceed with EBT preparations, the DHHS Project Coordinator will also be shared with this effort. Finally, Nebraska will add two Project Administrative Assistants. The Project Administrative Assistants will provide support in general WIC administrative duties to the senior State Agency WIC staff during the course of the Project to enable State Agency staff to provide time to focus on Project activities such as design sessions, document review, system testing, and changes in program management and operation due to the new system. Examples of project activities completed by State Agency staff could include review and revision of current policies; review and revision of training materials; development of new procedures and training materials; and evaluation of individual clinic operations. Nebraska will provide other staff resources as necessary including fostering participation in design and testing by local agency WIC staff.

Nebraska will contract for ongoing Quality Assurance (QA) services throughout the design, development and implementation phases of the lifecycle.

VIII.1. *Tasks and Level of Effort*

VIII.1.1. Project Oversight

The highest level of project management is project oversight. Specific project oversight responsibilities in any system project include:

- Managing and monitoring project progress;
- Strategic project decisions involving program policy, system design, project resources, contractor performance, *etc.*; and,
- Serving as the final authority regarding all project-related issues.

Project oversight for a WIC system project is typically performed by a steering committee composed of high level executives in state health and IT departments. For Nebraska, project oversight will be conducted by a Steering Committee (SC) comprised of senior members of the State WIC staff, a local agency representative, and a

representative from DHHS's Information Systems and Technology group (IS&T). It is anticipated that this group will meet as needed. The SC has regularly been meeting monthly during the planning effort. When designated, the DHHS Project Coordinator will also join the SC. The Nebraska WIC Director will serve as the Project Director and bears responsibility for keeping senior management abreast of the project's status and activities.

In addition, a Project Advisory Committee consisting of State and local agency staff was formed with a group for each functional area of the system. These groups worked together, meeting several times for each group, to develop the Functional Requirements Document section of this IAPD. These groups will remain active in the Project to serve as a communicative authority regarding system functional requirements for their respective stakeholder segment and reporting to the SC. Members of the Project Advisory Committee will participate in design sessions with the D&IC, review detailed design documents, and participate in User Acceptance testing of the system.

VIII.1.2. Project Manager

Nebraska has contracted with BCA for Project Management support from the start of the planning phase through full system implementation. BCA will provide support and direction to the DHHS Project Coordinator to assist them in managing all day-to-day activities of the project. This support will include identifying needs, such as arranging for facilities or facilitation of communication; provision of example materials for events and activities; and, mentoring on the use and maintenance of project plans and schedules. In addition, BCA will produce, update, and monitor the project schedule, and assist the DHHS Project Coordinator in managing the D&IC and QA contractors and supervising any programmatic sub-committees established. In addition, BCA provides regular status reporting to the SC, leads the regular SC status meetings, and assures the implementation of decisions made by the SC. At present, the option to extend current Project Management services to include the support and management of EBT planning activities has been exercised by the State. Should Nebraska receive approval to proceed with EBT development, the State may elect to extend the Project Management support agreement to include management of the EBT development and implementation efforts.

VIII.1.3. DHHS Project Coordinator

Nebraska will hire or designate a DHHS Project Coordinator. The DHHS Project Coordinator will organize and facilitate Nebraska's contribution to the project. With the Project Management contractor's support and direction they will be responsible for coordinating and facilitating meetings and workshops held in the State, supporting and ensuring the participation and input of the members of the Project Advisory Committee, tracking and consolidating materials from review of contractor products and deliverables, and ensuring the dissemination of project materials and communications. The DHHS Project Coordinator will also serve in this capacity for support of the EBT planning effort, and if Nebraska receives approval to develop and implement EBT, it will extend to those activities as well.

VIII.1.4. Project Advisory Committee

The Project Advisory Committee:

- Makes recommendations for policy review and revisions;
- Reviews and comments on project deliverables;
- Prioritizes functional areas that arise;
- Makes appropriate personnel resources available to the project team for business resolutions, review and testing; and,
- Participates in the functional design process, acceptance testing and pilot testing.

The Project Advisory Committee has been established and is comprised of members of State and local agency WIC staff. The Committee will work under the direction of and report to the SC. The DHHS Project Coordinator will coordinate the activities of the committee and assist in arrangements for notifications, scheduling, materials distribution, etc. The Project Advisory Committee will function through workgroups in functional areas. Workgroups will make recommendations by consensus. In the event that consensus cannot be reached, opposing views will be documented and presented to the Steering Committee. Final action on Project Advisory Committee recommendations will be taken by the Steering Committee.

VIII.1.5. Development and Implementation Contractor Responsibilities

Nebraska will procure the services of a system Development and Implementation Contractor (D&IC) through a competitive procurement. The D&IC will have direct experience in the transfer, modification and implementation of modern WIC web based systems. A detailed statement of D&IC contractor work requirements is presented in Chapter IX, below.

VIII.1.6. Quality Assurance Responsibilities

Nebraska will procure the services of a Quality Assurance (QA) contractor through a competitive procurement. This section describes the general responsibilities of the quality assurance contractor during each phase of the project.

The primary QA activity during the Initiation Phase is to integrate the QA work plan with the schedule and plan developed by the D&IC. It is also in this initial period that agreement is reached among all parties regarding the form and substance of all contractor deliverables.

QA activities during the Detailed Functional and Technical Design Phase include participating in the system review sessions and ensuring that design decisions made during those sessions are fully understood and documented. It is a QA responsibility to

review all contract deliverables related to the system design including the Detailed Functional Design Document (DFDD) and Detailed Technical Specifications Document (DTSD) or their equivalents, which are major D&IC deliverables.

In the Development Phase there are a number of ancillary project deliverables submitted by the D&IC that will be reviewed by the QA contractor, including the training plan, security plan, disaster recovery plan, data conversion plan, configuration management plan, testing plan, implementation plan, and the Users' and Operations manuals. During this period, the QA contractor is also creating the UAT plan and script based on the DFDD and DTSD. In addition, the QA contractor may be asked to conduct site visits to the D&IC's offices to oversee progress and to assess system readiness for UAT.

In the User Acceptance Test Phase, Nebraska State Agency staff and clinic staff from a variety of Nebraska local agencies will be recruited to assist in conducting the UAT, since UAT requires multiple simultaneous testers to provide a realistic test environment. It is likely and appropriate that most if not all UAT test staff will be drawn from the Project Advisory Committee. This is also the most effective and cost efficient approach.

The QA contractor will be required to provide the UAT Plan and Test Script. The test script procedures must be written in such a way as to allow a beginner system user to follow and execute the tests. During the course of the UAT, the QA contractor will be required to monitor the testing and to ensure the proper entry and classification of defects in the error tracking database. In addition, the QA contractor's responsibility is to be present at initiation and key junctures during the UAT in an advisory capacity and make a recommendation at the end of the test regarding whether or not the system is ready for pilot. The QA contractor will also help train the State and clinic staff that will be running the test. At the conclusion of UAT, the QA contractor will review the D&IC's UAT memorandum and provide an independent assessment and certification of the system's readiness for Pilot.

During System Pilot, the QA responsibility is to monitor system performance, recommend remedial action where appropriate, and recommend a go/no go decision regarding system roll out to the remaining local sites.

During system Rollout, the QA contractor is to monitor and report on the D&IC's performance of system roll out activities and adherence to schedule. In addition, the QA contractor will continue to monitor system performance.

Upon completion of rollout the D&IC may be required to operate and maintain the system during a period to be defined by Nebraska during contract negotiations. During this time the D&IC must also train and mentor the IT groups assigned to eventually assume responsibility for the system should Nebraska elect to operate the system in-house. During this Operations and Maintenance Phase the QA contractor is to monitor and evaluate this activity.

Upon completion of roll out and prior to system Transition and Closure of the D&IC contract, the QA contractor is to monitor all D&IC activities related to this project phase.

In addition, the QA contractor will be required to conduct a post-implementation review of the system. The review will report on the system's attainment of the required features and functionality, any remaining design or functionality issues or errors, overall attainment of the project's goals and objectives, and the status of user acceptance of the new system and its integration in State and clinic level tasks and activities. Once the system has achieved the level of stability required, an updated version of all system documentation, including the DFDD, DTSD, and user/operations manuals (including on-line help or other materials) will be delivered by the D&IC. The QA contractor will review these documents for accuracy and completeness.

VIII.2. *Project Staffing and Organization*

The following subsections identify the specific individuals (to the extent known) who will serve in the various roles, and their organizational responsibilities. At the end of this section is a schematic diagram of the project and the organizational players.

VIII.2.1. Project Sponsor

The Nebraska WIC System Project Sponsor is Paula Eurek, Unit Administrator, Lifespan Health Services Unit, Nebraska Department of Health and Human Services. The Project Sponsor is the senior State administrator with responsibility for the Project. The Project Sponsor:

- Advises on DHHS policy;
- Supports the Project needs and staffing requirements; and,
- Provides final resolution on disputes

VIII.2.2. Project Oversight

The Nebraska WIC Project Steering Committee will conduct project oversight of the new Nebraska system design, development and implementation. The SC for this project will consist of the following individuals.

Figure 16: Nebraska Project Steering Committee

Nebraska Steering Committee	
Name	**Title**
Peggy Trouba	WIC Director, Project Director
Candice Avery	Applications and Development Support Manager, DHHS IS&T
Choo Ng	WIC System Business Analyst

Regina Paschold	Vendor Management Coordinator
Melissa Oerman	WIC Supervisor (Local Agency Representative)

When a DHHS Project Coordinator is designated, they will be added to the SC.

At this time, the chair for the committee is Peggy Trouba, Nebraska WIC and Project Director. The steering committee's primary contact will be with the Project Management contractor, but the committee will have direct communication with the QA and the D&IC project managers as determined necessary throughout the project. All written/electronic communications from the Project contractors will go to the SC.

VIII.2.3. Project Manager

Doug Burger of BCA will serve as the Project Manager under the terms of BCA's Project Management and Planning services contract. Mr. Burger will work directly with and report to the SC and will assist the DHHS Project Coordinator in the conduct of their duties. Mr. Burger will also ensure communications and facilitate tasks and activities with the D&IC and QA contractor.

VIII.2.4. DHHS Project Coordinator

The DHHS Project Coordinator will be an employee or contractor for Nebraska. The DHHS Project Coordinator will report to and be under the supervision of the WIC/Project Director. The Project Coordinator will support the efforts of the Project Manager and bear responsibility for coordination and facilitation of the State's project activities. Should Nebraska receive approval to proceed with EBT preparations, the DHHS Project Coordinator will also be shared with this effort. When designated, the DHHS Project Coordinator will join the SC.

VIII.2.5. Operations Staff

Upon completion of system transition, the Nebraska system may be operated in-house, Nebraska may elect to contract for system operations and maintenance, or a hybrid of these approaches may be selected. Should Nebraska elect to operate the system in-house, the State will hire, contract or train current staff to operate, maintain and potentially, enhance the system. At this time it is estimated that Nebraska would require the services of the following positions to meet this need:

- Database Administrator;
- Network Administrator;
- Operations Staff; and,

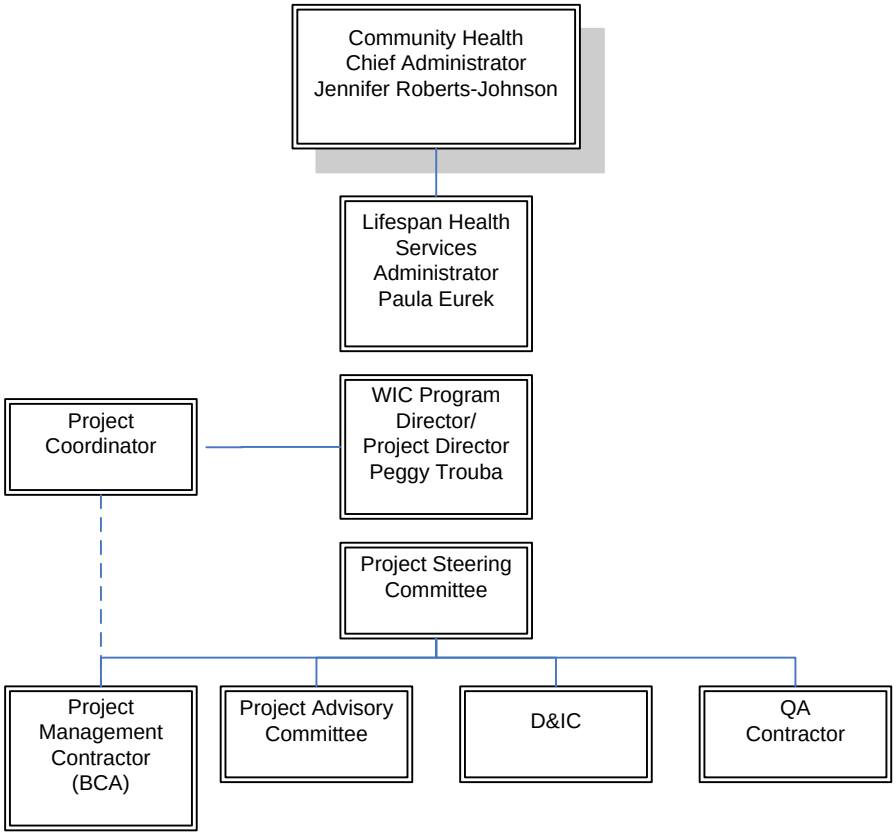
- Maintenance and Enhancement Staff.

The FTE requirements for each of these areas will be dependent upon the level of operations, maintenance, and system enhancements support the State elects to provide in-house. In addition, it is possible that the duties and responsibilities of some of these positions will be combined in one position. The actual staffing requirements for the operation, maintenance, and enhancement of the system will be developed in consultation with the D&IC unless the system operations and maintenance is out-sourced.

VIII.3. *Project Organizational Structure*

An organizational chart for the Project is shown below illustrating the lines of communication from State administrators through the Project Steering Committee to the Project team members and contractors.

Figure 17: Project Organizational Chart



IX. Schedule of Activities, Milestones and Deliverables

IX.1. *Purpose*

This section of the IAPD defines the anticipated schedule of activities, milestones and deliverables for the transfer of the MPSC system to Nebraska, inclusive of tasks, activities, products, and schedule for the system development and implementation contractor (D&IC), the quality assurance contractor (QA), project management, and the State of Nebraska WIC Program. As part of their response to the Implementation Request for Proposals (IRFP) and the QA Request for Proposals (QARFP), potential D&IC and QA contractors will be required to confirm their intent to comply with this schedule and required products, or propose any necessary modifications. Nebraska will require the selected D&IC and QA vendors to comply strictly with the approved schedule. Failure to meet the approved schedule may result in withholding payments or implementing penalties, as determined to be in the best interest of the State.

IX.2. *Documentation*

The transfer (with modifications) of the MPSC system to Nebraska includes not only the modified software but the updated system documentation as well. Thorough and concise documentation has already been prepared for the MPSC system and is in the public domain (see section VI, General System Design for a link to the system documentation in the public domain). Nebraska will require that bidders in response to the IRFP review the existing documentation for the proposed transfer system. Bidders must demonstrate that they are well versed in industry standard system documentation methodologies and willing and capable of updating the MPSC system documentation as needed to reflect any modifications made to the system. Nebraska agrees to accept the current MPSC system documentation as the baseline documentation for the system that will be modified with the addition of changes and enhancements to reflect the modifications made to the system as requested by Nebraska (please see Attachment A (section XV), Prioritized List of Desired System Enhancements). All references to the MPSC are to be replaced with reference to Nebraska. Any functionality added, modified, or deleted from the base MPSC application is to be noted as such in each document. In addition, the existing system training materials and user manuals will require revision to reflect any system modifications made.

IX.3. *Drafts*

For deliverables defined below that specify more than one draft, it is intended that the first draft and all subsequent drafts represent the D&IC's good faith best effort to submit an accurate and complete deliverable. Drafts that contain missing and/or inaccurate sections that the contractor could have supplied (e.g., that are not dependent on information that the contractor through no fault of its own could not obtain in time to include in the deliverable) will be rejected without further review. All versions of deliverables that are actual documents must be submitted in both hard copy and electronic form in the current version of MS WORD. Subsequent electronic versions of drafts (including the final version) must be submitted with changes tracked.

The D&IC must formally submit all deliverables to the Project Director. In addition, all deliverables must be posted on the appropriate project web site(s) to facilitate review. (The D&IC must maintain user groups and access to the web site for deliverable reviews.) All deliverable review comments must be sent to the DHHS Project Coordinator. The DHHS Project Coordinator will prepare a single consolidated set of comments and corrections that will be delivered to the D&IC.

IX.4. *Project Phasing*

The Nebraska WIC system project will consist of nine (9) phases. These phases are:

1. Project Initiation, Planning and Management
2. System Design
3. System Development and Testing
4. User Acceptance Test (UAT)
5. Pilot Test
6. Data Conversion and Rollout
7. Operation and Maintenance and Initial Warranty Period
8. Project Closure and Transition
9. Extended Warranty and Operations Period Options

As part of their response to the IRFP, potential contractors will be required to provide detailed descriptions of all planned activities and timeframes in their Task Plan. Figure 18 below provides a preliminary project management and task plan for the D&IC. The tasks summarized in Figure 18 are detailed by subtask in Section IX.6. Section IX.7 contains a list of typical project deliverables related to the Task Plan. A software development Gantt chart that lays out a preliminary schedule for the tasks and subtasks is shown at the end of this section of the IAPD.

Potential contractors must propose a Project Work Plan that meets or exceeds the requirements and schedule described below. Potential contractors must include a schedule of proposed work including Gantt charts illustrating project milestones, dates or timeframes for contract deliverables, and dates or timeframes for review of deliverables by Nebraska.

The D&IC will acknowledge the goal of an incremental but rapid rollout of the system to the Nebraska agencies and commit to assisting them in accomplishing that goal.

IX.5. *D&IC Project Activities*

The following Figure 18 contains a preliminary project management and task plan for the D&IC based on the transfer and modification of the MPSC system. Potential contractors must acknowledge this plan in their proposals or provide an alternate but comparable plan.

Figure 18: Preliminary D&IC Project Management and Task Plan

TASK 1 - Project Initiation, Planning and Management

1.1. Project Initiation

1.2. System Transfer, Modification, and Testing Plan

1.3. Final Work Plan and Schedule

1.4. Project Status Reporting

TASK 2 - System Design

2.1. System Design Sessions

2.2. Updated Detailed Functional Design Document (DFDD)

2.3. Updated Detailed Technical Specifications Document (DTSD)

2.4. Implementation, Conversion, Training, and Security Plans

TASK 3 - System Transfer, Modification, and Technical Testing

3.1. System Transfer Initiation

3.2. System Transfer, Modification, and Technical Testing

3.3 Operational Planning, Documentation, and Training Materials

TASK 4 - User Acceptance Test (UAT)

4.1. System Installation

4.2. System Operations Support and Training

4.3. Support UAT and System Revision

TASK 5 - Pilot Test

5.1. System Pilot Initiation Meeting

5.2. Help Desk Training

5.3. Pilot Agency (State Office and Clinic) Training

5.4. Data Conversion

5.5. System Pilot Test

5.6. Evaluate Pilot, Modify and Retest System

TASK 6 - Rollout

6.1. System Rollout Initiation Meeting

6.2. User Training, Conversion, and Implementation

6.3. Post Implementation Problem Resolution and Checkpoint

6.4. System Documentation Update

TASK 7 - Operation and Maintenance and Initial Warranty Period

7.1. System Operation and Maintenance

7.2. Nebraska Operation and Maintenance Staff Training and Mentoring

7.3. One Year Warranty Period with provision for warranty extensions. See Task 9

7.4. System Problem Reporting

7.5. System Modification

TASK 8 - Project Closure and Transition

8.1. Final System Documentation, Forms, Source Code, Data, and Other Materials

8.2. Contract Closure

TASK 9 - Extended Warranty and Operation Period Options

9.1. Extended Warranty Period Option

9.2. System Modification

9.3 System Operations Option

IX.6. *D&IC Project Task Plan*

IX.6.1. TASK 1 - Project Initiation, Planning and Management

The D&IC provides for the conduct of a project initiation meeting, prepares the plans that will guide and track the project's progress, and initiates project status reporting.

The following subtasks have been identified as necessary to this task effort:

Subtask 1.1. Project Initiation

The D&IC must convene an initiation meeting at the Nebraska WIC office. The D&IC project manager and other key contractor staff as deemed necessary by the Nebraska Project Steering Committee, plus the quality assurance (QA) contractor, must attend the meeting. The purpose of the meeting will be to review the project plan, schedule, and deliverables, and discuss the management of change orders. Within five working days of the meeting the D&IC must deliver a technical memorandum documenting all agreements, understandings, and contingencies arising from the project initiation meeting.

Subtask 1.2. System Transfer, Modification, and Testing Plan

The D&IC must deliver a comprehensive system transfer and modification plan, describing in detail the contractor's approach to the transfer, modification and implementation of the Nebraska WIC system. The plan must include a description of the structured system life cycle development methodology to be employed throughout the project. Subjects to be covered include: the system development process; the methods for maintaining requirements traceability throughout the development process; types and conduct of test activities, and the change control and configuration management processes. The D&IC is required to utilize automated configuration management and version control tools. The plan must include a discussion of the contractor's approach to quality control and security.

Subtask 1.3. Final Work Plan and Schedule

The D&IC must deliver a master work plan including Gantt charts and a project calendar in Microsoft Project, Adobe Acrobat and printed copy. The master work plan must reflect any changes from the plan submitted with the contractor's proposal that were discussed and agreed to during the project initiation meeting. The work plan must be maintained throughout the life of the project and must be updated as necessary to reflect the accurate status of the project. For example, the dates of the modification and testing tasks will be known accurately only when the system modification design phase is completed, so the work plan must be updated at that point. The plan must also be updated as needed when tasks are completed. The D&IC's Final Work Plan and Schedule will be combined by the QA contractor with the QA Master Work Plan to generate an Integrated Master Schedule (IMS) for the Nebraska system transfer, modification, and implementation project effort.

Subtask 1.4. Project Status Reporting

The D&IC must prepare and submit monthly, detailed reports on overall project status, work accomplished in the reporting period, objectives for the next reporting period, client responsibilities for the next period, decision/information requests outstanding, problems and warnings, and schedule and budget issues. The status reports must incorporate and provide regular updates to the Final Work Plan and Schedule as necessary. During some periods of intense activity (e.g., rollout) it may be necessary to provide status reports more frequently, but no more than weekly. The D&IC will also participate in biweekly Steering Committee status meetings via conference call. The meetings will be hosted by the Nebraska Project Manager.

IX.6.2. TASK 2 - System Design

In this task the D&IC leads and facilitates the conduct of system modification design sessions, updates the system functional and technical documentation, and prepares the detailed plans for system implementation, data conversion, user training, and maintenance of system security. This project task ends with Nebraska formal acceptance of the D&IC's plans and design documentation.

The following subtasks have been identified as necessary to this task effort:

Subtask 2.1 System Orientation Training

It is Nebraska's intention to begin early in the Project to develop a team of local agency and State Agency 'super users' who will be utilized to assist the D&IC in the conduct of the training and will provide support to the local agencies as they go live with the new MIS. These super users will be drawn from the State and local agency staff who have already participated in the design sessions leading to the development of the Nebraska FreD. To initiate the development of the super user group, the D&IC must conduct a System Orientation Training for the group prior to initiation of detailed design sessions. This training must mimic the training to be provided to users for future activities including UAT, Pilot and Rollout. The super users will then be able to approach the detailed design of the system with an understanding of the transfer system functionality and operation. The training will be held in a central location, such as the State offices, and consist of one full week training session for all designated super user staff.

Subtask 2.2. System Design Sessions

The D&IC must conduct a review of the proposed transfer system's functionality in comparison to the Nebraska requested enhancements and modifications to identify required revisions to the system (please see Attachment A (section XV), Prioritized List of Desired System Enhancements). To develop a detailed design of the modifications, the D&IC must conduct joint application design (JAD) sessions for the definition of the required new system functionality. The session must include a review of all system functionality by area, but will focus on the desired modifications. These meetings must be held with the QA contractor and appropriate staff from Nebraska and its local

agencies, as selected by the Nebraska Steering Committee. Primary contributors to the design sessions are expected to be the members of the established Nebraska Project Advisory Committee. The purpose of the system review/JAD sessions will be to conduct a review of the existing system utilizing both the application and system documentation and confirm the details of requested modifications or enhancement for the new WIC system, including screens, processing, and outputs of each functional area of the system (e.g., certification or vendor management). The D&IC must utilize the Functional Requirements Document (FReD) for the MPSC system as the baseline for review and definition of system functionality. The design sessions must be conducted early enough in the project process to ensure incorporation of all decisions made during the reviews into the DFDD.

Nebraska has provided for two weeks of design sessions early in the Project effort. However, given the scope of the desired modifications, the D&IC will be requested to provide for sufficient design sessions to address the need. It is expected that the design sessions will be conducted by functional area of the system (e.g., clinic services, appointment scheduling, vendor management, etc.). Should there be no system modifications in any system functional areas, these sessions will consist solely of a review of the system functionality in that area. The D&IC must review the desired system modifications and determine if in their opinion the two week time frame is sufficient to the need. Should they determine additional design sessions are required these should be explained and proposed in their proposed Project schedule.

Subtask 2.3. Updated Detailed Functional Design Document (DFDD)

Following completion of the design sessions, the D&IC must deliver an updated MPSC Detailed Functional Design Document (DFDD) comprehensively describing the functional requirements of the system and highlighting the new design specifications added to the document to describe the Nebraska modifications. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval. The draft submission must be accompanied by a formal walk-through of the revisions to the document with designated Nebraska staff and the QA contractor and an appropriate review period (i.e., twenty working days for the draft and ten for the final). The review period must be extended if the level of modifications and enhancements to the system requested by Nebraska are numerous (please see Attachment A (section XV), Prioritized List of Desired System Enhancements).

As part of the DFDD, the D&IC must prepare a requirements traceability matrix that relates each requirement in the Nebraska FReD to the section(s) in the DFDD where the requirement is addressed. This matrix must be maintained by the D&IC throughout the course of the project and must identify where each original requirement is realized in the final application.

The updated DFDD, once formally accepted by Nebraska, must be kept current and maintained in accordance with configuration management standards throughout the life of the contract. Approval of the DFDD will be required before system development activities in Task 3 may begin.

Subtask 2.4. Updated Detailed Technical Specifications Document (DTSD)

The D&IC must deliver to Nebraska an updated Detailed Technical Specifications Document(s) (DTSD), reflecting the final requirements for system configuration and operation. This document describes all internal specifications of the MPSC system in detail. This deliverable is to be presented as a Draft version for review and a Final version for approval. The draft must be accompanied by a formal walk-through of the revisions to the document with designated Nebraska staff and the QA contractor and an appropriate review period (i.e., twenty working days for the draft and ten for the final). The review period must be extended if the number of modifications and enhancements to the system requested by Nebraska is high (please see Attachment A (section XV), Prioritized List of Desired System Enhancements).

The final DTSD, once formally approved by Nebraska, will, together with the approved DFDD, constitute the complete system definition for the new WIC system. The DFDD and the DTSD together will constitute the agreement between Nebraska and the D&IC regarding the functionality and operation of the new system. Final approval of the DTSD will be required before the beginning of system development. The two documents will be the documentation used by the D&IC during system development, and will be the basis for the development of the User Acceptance Test (UAT).

Subtask 2.4 also includes a requirement for the D&IC to conduct a technical specification workgroup session. This meeting will be held with appropriate Nebraska project management and technical staff and the QA contractor to ensure that the appropriate staff understands the presentation and organization of the technical specification documents prior to reviewing them.

Subtask 2.5. Implementation, Conversion, Training, and Security Plans

The D&IC must deliver a series of written plans for the conduct of the remaining aspects of system implementation. The plans will detail the contractor's approach to system implementation, data conversion, training, and security.

The plans must include, in Gantt format, the portion of the overall project schedule (brought up to date as of submission of the deliverable) that includes all tasks subsequent to system development by the D&IC, including contractor milestones and Nebraska tasks (e.g., developing new policies and procedures) and checkpoints. Alternatively, the deliverable may refer to the overall project schedule if all tasks are included and the overall schedule is up to date. They should include a detailed description of each task within the four areas (implementation, conversion, training, and security). The plans should encompass the contractor's approach for the following 1) a draft Nebraska implementation schedule, 2) conversion and testing of converted data, 3) state office, clinic and operations staff training, and 4) how security will be maintained in the new WIC system. In addition, the following at a minimum must be included specifically for each area:

Conversion: The Plan must provide a field-by-field mapping (including how the values will be converted) from the legacy system in Nebraska to the new system, including the following:

- Any assumptions or proposed calculations involved in the conversion;
- Default values for required fields that do not exist in the legacy system or a method to allow for missing data until all participants are on the new system;
- Methods for handling anomalies in the data between the systems (data elements with incompatible length and/or type between the systems, or data elements with stricter edit requirements in the new system that fail those edits in the old); and,
- How data elements that have been assigned default values by the automated conversion procedures will be populated with actual data once automated conversion is complete for a site.

The plan must also detail any data "clean up" procedures in the individual agencies that can effectively improve the conversion effort. The Conversion Plan must take into account possible exceptions to full conversion of the databases. It will also detail exception reports that will be produced by the conversion programs and provide for a fully auditable conversion of data files. The Plan must comprehensively address all Nebraska WIC data, inclusive of vendor, financial, schedule, clinic, and client data in the legacy and describe how each type of data will be converted. Justification must be provided for any existing data that may not be converted for use in the new system.

Training: The Plan must describe the types of training and the audiences for each, provide a description of training materials, provide a description of training methodology, include a detailed list of topics to be covered for each type of training, and describe the methodology for evaluation of training effectiveness. The types of training must include, at a minimum, clinic user, state office user, central system operator, and "train the trainer" training. Changes to WIC policies and procedures must be incorporated into state and local user training by consultation with Nebraska State WIC staff. The Plan must indicate the overall training schedule including number of days and preliminary agendas for the training. The Plan must provide an overview of tools and materials to be employed in the training including workbooks, handouts, evaluative materials, and a training system if employed. The Plan must identify the proposed training staff. The clinic user training should include a module on how to set up a satellite clinic if this configuration is required. The required types of training are detailed in section XIII.2, Types of Training.

Security: The Security Plan must include processes and procedures for maintaining hardware, software, and data safety and integrity during all phases of implementation and operation. The plan must include a process for ongoing security assessments and reviews. Processes and procedures for preventing access to data by unauthorized persons must be described. Data encryption standards and public key/private key access controls must be described in detail.

IX.6.3. TASK 3 - System Transfer, Modification, and Technical Testing

In this task the D&IC conducts the system development and comprehensive technical testing of the modifications to the application. The D&IC may not initiate this activity until Nebraska has formally accepted the system functional and technical design documents. This project task ends with a D&IC demonstration of error free system operation and system certification of readiness for UAT.

The following subtasks have been identified as necessary to this task effort:

Subtask 3.1. System Transfer Initiation/System Transfer, Modification and Testing Plan

Upon approval of the system design documentation, the D&IC is to convene a development and testing phase initiation meeting to be attended by designated Nebraska staff and the QA contractor. The meeting will serve as a venue for the D&IC to review their plans and schedule for system development and testing and highlight Nebraska and QA activities during the project phase. Prior to the meeting, the D&IC is to prepare and present a Development and Technical Testing Plan, which will serve as the basis for the meeting presentation. Within five working days of the meeting the D&IC is to provide a technical memorandum documenting all agreements, understandings and contingencies resulting from the system development initiation meeting.

Subtask 3.2. System Transfer, Modification, and Technical Testing

This subtask includes the development and testing of the major D&IC deliverable, the modified MPSC WIC system. Once the contractor's development and internal testing is finished, the contractor will formally advise Nebraska that the system is ready for UAT. The system will be ready for user acceptance testing only after the contractor has performed a thorough system qualification test of all system functionality, and that test has recorded zero errors. This includes the conversion routines for converting records from the legacy system, as this system functionality will also be tested during the UAT. The contractor is responsible for generating the test data and test cases to be used for its own system qualification test.

The D&IC must develop the new WIC system using a structured system life cycle development methodology that includes the following types of test activities:

Unit/Module Test

This type of test is used to validate that an individual program module or script functions correctly. It validates the module's logic, adherence to functional requirements and adherence to technical specifications. Each unit/module test must execute every source statement and each conditional branch in the module. Unit/module tests are usually conducted by the programmer who writes the module. Test results are recorded in the software development folder for that module. Unit/module tests must be conducted for any system module that has been modified.

Subsystem Integration Test

This type of test examines subsystems that are made up of integrated groupings of software modules. Subsystem integration testing should be conducted in the development environment. It is the first level of testing where problem reports are generated, classified by severity, and the resolution monitored and reported. Subsystem integration testing may need to be run several times for each subsystem and is only complete when it can be run with zero errors. Subsystem integration testing must be conducted for any subsystem that has been modified.

System Qualification Test

This test, which should be conducted by an independent test group within the D&IC's organization, tests the entire system when coding and testing of all system modules and subsystems has been completed. It determines whether the system complies with standards and satisfies functional, technical, and operational requirements. The goal of testing is to confirm that both individual system modules and the entire system perform in accordance with the functional requirements and technical specifications. During this test period, system documents and training manuals must also be tested for accuracy, validity, completeness and usability. During this test, the software performance, response time, and ability of the system to operate under stressed conditions and maximum load must also be tested by the D&IC. External system interfaces must also be tested. The ability of the system to correctly process data converted from legacy systems must be tested. All findings must be documented during the test and compiled in a system qualification test analysis report prepared by the D&IC for delivery to Nebraska. Like the subsystem integration test, this test may need to be run several times, and is only complete when it can be run with zero errors.

Regression Testing

Regression testing must re-test a system component (unit, module, or subsystem) following any modification to verify that the problem was corrected without adverse side effects and to ensure the component still complies with its requirements. Regression testing also refers to rerunning the entire system qualification test after errors have been corrected to ensure that unanticipated errors have not been introduced elsewhere in the system by the error correction activity.

Readiness Certification

Once the D&IC is satisfied that the system meets the functional requirements and technical specifications, the contractor must provide Nebraska with a written certification that the system is ready for User Acceptance Testing (UAT). This certification must not be delivered until the system has passed all tests and there are no known errors.

In order to demonstrate the system readiness for UAT, the D&IC must perform a key function system walkthrough with the DHHS Project Coordinator and other agency staff.

In this demonstration, the system must perform the following functions, at a minimum, with zero errors:

- Establish clinic calendar, schedule various types of WIC appointments, mark appointments as kept or missed, demonstrate appointment lookups and changes, and produce appointment related reports;
- Create security/user roles;
- Perform certification (including assigning automated risk factors and appropriate category);
- Issue FIs and EBT benefits;
- Transfer between clinics;
- Upload/download clinic files to and from a laptop computer;
- Authorize a new Vendor;
- Redeem FIs;
- End-of-day/month processing;
- System Administration;
- Print Participation, Schedule, Vendor, and Financial Reports;
- Print FI Reconciliation Report; and,
- Demonstrate system response times in adherence with RFP requirements.

If there are any errors (other than cosmetic errors) during the demonstration, the UAT will not proceed.

Periodic Reviews

During the System Development and Technical Testing subtask, the D&IC must schedule periodic reviews for Nebraska. The purpose of these reviews is to measure overall progress, status and work products (screens, reports, etc.), and allow Nebraska to see the product of system modifications prior to the submission of the system for UAT. These reviews must provide an opportunity to clarify and correct any modifications made to the system that does not correctly address the intended functional modification. Given this requirement, it is in the D&IC's best interests to provide prototype reviews and demonstrations for each system modification as they become available.

Subtask 3.3. Operational Planning, Documentation, and Training Materials

The D&IC must prepare and submit comprehensive User Training materials for all levels of system training: state agency, clinic, help desk, and data center operations. The D&IC must also submit an updated System Operations Plan that describes all required systems operational activities and provides guidance on system maintenance and enhancement practices, tools, and approaches. The D&IC must also provide any additional documentation, such as equipment manuals and COTS (Commercial off the Shelf) applications user manuals at this time. The D&IC must provide or specify an automated application for management, operations, recording, tracking, and remedy of help desk inquiries.

These deliverables must be submitted in draft form for review by Nebraska project staff. Final products must be submitted within one week of receipt of Nebraska's comments. Final products must be submitted in appropriate quantities for implementation and system operation purposes.

IX.6.4. TASK 4 - User Acceptance Test (UAT)

In this task the D&IC facilitates and supports the conduct of user acceptance testing and remedies all errors identified during testing. The task includes a requirement for the D&IC to provide on-site support for the duration of UAT.

The following subtasks have been identified as necessary to this task effort:

Subtask 4.1. System Installation

Upon completion of system development and testing and achievement of certification of readiness for UAT, the D&IC must prepare and install the central processor and necessary servers and install the hardware and software for the test bed application. This may include coordinating installation with DHHS's Information Systems and Technology (IS&T) staff and integrating the server into existing environments if needed (e.g. Active Directory, NDS, firewalls).

Should the state of Nebraska elect to operate the system, the D&IC must install the system on the state's servers. In the event Nebraska selects contracting for system operations, the D&IC must install the system at the agreed upon operations site. The system installation must include an operational system and a test bed system. Upon completion of system installation, the D&IC must conduct an operations test to verify that the system is correctly functioning. The system installation must be conducted sufficiently in advance of the initiation of UAT to ensure system availability for the scheduled testing.

Subtask 4.2. System Operations Support and Training

During UAT and Pilot, the D&IC must be responsible for the operation of the Central Processor application. During this period, the D&IC must ensure that the Central Processor application provides all functionality and processing required to fully support

the Nebraska State WIC Program and their local agencies. Also during this time, the D&IC shall begin training and mentoring of the state operations staff should Nebraska elect to operate the system in house. In addition, support to Nebraska in implementing the Help Desk is required. Finally, during this period the D&IC will also provide an assessment of Nebraska's disaster recovery procedures.

For this subtask to be successful, the Central Processor application must, at a minimum, provide the following services:

Provide on-line access to the functionality in the state agency and clinic applications for operations, analysis, and the generation of reports.

Provide all file maintenance, including backups, archiving of data, and maintenance of database synchronization between system modules on a daily basis.

Assure all data communications between the Central Processor, the local agencies and their clinics, and the Nebraska office.

Provide extensive disaster recovery procedures to ensure meeting system availability requirements.

Provide the software and support required to exchange data with other State and Federal programs electronically. This electronic data exchange will be for the purpose of meeting the requirements of the financial transactions with the banking services contractor and the USDA/FNS minimum data set and TIP report. Other data exchange with selected border state's and tribal agencies' WIC Programs is required to facilitate cross program data analyses such as dual participation.

Provide all system enrollment, reconciliation, expenditures, vendor and other required reports in the media required and according to the agreed upon schedule.

The D&IC will maintain responsibility for system operations at least until Pilot is complete. Therefore, if the state has not elected to exercise an option for on-going operations from the D&IC, the contractor will provide operations on-site at the Nebraska State offices (or justify remote operations) throughout the UAT and Pilot.

Subtask 4.3. Support UAT and System Revision

Assuming that the key function walkthrough has been completed with no errors, the system must be made available to Nebraska WIC, who will conduct a formal User Acceptance Test of the modified WIC system. Nebraska State and local agency staff will participate in the UAT, using a script provided by the QA contractor. While Nebraska reserves the right to subject the entire system to UAT, the intent is for testing to focus on those modules and subsystems that have been affected by system modifications, inclusive of functions that receive or pass data to modified functions. Although testing may be scaled back dependent on the extant of the modifications, Nebraska still anticipates some level of end-to-end testing of the system prior to acceptance for Pilot. Prior to UAT, the

D&IC must provide comprehensive system training to the end users that will conduct the UAT. Additionally, D&IC staff must be available on-site (for the duration of testing) and in their development facilities for consultation and problem resolution during the test. The D&IC must convert data from the legacy system as required and provide systems training to the user acceptance test team.

The system, as delivered by the D&IC for UAT, is expected to have relatively few errors. It is assumed that the UAT can be completed in two rounds—one to uncover any errors, and a second to verify that any errors identified have been fixed and that no new errors have been introduced. This requires that the D&IC not only fix the errors identified in round one, but also run the resulting system through their system qualification test prior to delivering it for the second round of UAT. The period of User Acceptance Testing will be ten (10) weeks in duration, providing the above assumptions are satisfied. In any case, the D&IC must make all required corrections and revisions to the system resulting from the acceptance testing process. System re-testing must be conducted as required.

The D&IC must provide an application for the capture, reporting, and tracking of errors identified during UAT. The application may be a COTS product or a custom application provided by the developer. The reporting and tracking application must provide for the following data elements at a minimum:

- Test procedure name and number;
- System module under testing;
- Test round;
- Test date;
- Error description;
- Error severity;
- Tester name;
- Clinic identification (or SA);
- Error attachments (screen shots, reports);
- D&IC initial analysis and response;
- Work order number;
- Fix date;
- Regression test date;
- Test Director sign-off; and,

- Error closure date.

If at any time during the UAT, the percent of test procedures failed exceeds 20% (excluding cosmetic errors), the UAT will be halted, and the system returned to the D&IC for correction.

During UAT, the user manuals and on–line help will also be evaluated. The UAT procedures will instruct the testers to reference the user manuals or on-line help for directions regarding how to perform the required actions. Any inadequacies in the manuals must be corrected prior to final acceptance of those documents by Nebraska.

The UAT will not be considered complete until the system is capable of successfully processing the operations of all the UAT test procedures without significant (other than cosmetic) error or failure. After successful completion of the acceptance test, the D&IC will provide Nebraska with a formal assessment of the system's readiness for pilot implementation. The UAT is completed with Nebraska formal acceptance of the system for pilot testing.

Subtask 4.4. Assessment of Nebraska Disaster Recovery Procedures/Disaster Plan

Prior to and during the acceptance test, the D&IC must conduct an assessment of the Nebraska Business Resumption Plan and Disaster Recovery Policy. The assessment must include identification of any deficiencies in the Nebraska approach and provide suggestions for improvement as needed. The D&IC is to prepare and present a comprehensive Disaster Plan specific to the new system, building upon and incorporating Nebraska Business Resumption Plan and Disaster Recovery Policy provisions.

IX.6.5. TASK 5 - Pilot Test

In this task the D&IC supports and facilitates the conduct of a system pilot test. Once the system has passed UAT and has been formally accepted, a system pilot will be conducted in at least two Nebraska local agencies and their associated clinics and the State Agency.

The purpose of the pilot is to verify that the system works correctly in conditions of actual use. Because the workload of clinic staff would effectively be doubled at a time when many other changes to clinic processing are being introduced, and because of problems associated with dual issuance of FIs, it is not feasible to run the old and new systems in parallel in a clinic. Therefore Nebraska will not proceed to pilot until it is confident that there is very little possibility of an unsuccessful outcome to the pilot.

The following subtasks have been identified as necessary to this task effort:

Subtask 5.1. System Pilot Initiation Meeting

Following successful completion of the UAT, the Nebraska Project Manager will convene a meeting at the Nebraska State Office. The meeting must be attended by the D&IC's project manager, the QA contractor, and other key Nebraska and contractor staff as necessary. The purpose of the meeting must be to discuss and review the project plan,

schedule, and deliverables for the implementation of the system pilot. Within five working days of the meeting the D&IC is to provide a technical memorandum documenting all agreements, understandings and contingencies resulting from the system pilot initiation meeting.

Subtask 5.2. Help Desk Training

The D&IC will provide training to the Nebraska in-house Help Desk staff. This group of individuals will serve as the first line in assisting WIC staff with system issues. Any questions or problems they are unable to solve will be escalated to the D&IC for resolution. Following this training, the contractor should be able to provide any additional assistance to the help desk staff remotely from its own facilities.

Subtask 5.3. Pilot Agency (State Office and Clinic) Training

After successful completion of the UAT, the D&IC must provide face-to-face on-site training for the staff that will be involved in the pilot sites. The training may employ hardcopy exhibits and handout materials but must also include extensive hands on, on-line exercises and objective evaluations in order to ensure user proficiency and competence. The D&IC must provide the Nebraska Steering Committee with documented evidence of each trainee's competence to operate the system within one (1) week of the training event. Training must be of sufficient length to ensure adequate comprehension. Training must comprehensively address all system operations as well as security considerations.

Subtask 5.4. Data Conversion

The D&IC must convert all databases in the legacy system for the state and local agency pilot sites to the correct format and load it on the new system. This conversion of the database will occur immediately prior to implementation of the pilot site, as the agency will not be allowed to make any other changes to legacy system records once the conversion has been accomplished.

Subtask 5.5. System Pilot Test

The D&IC will be required to oversee the pilot test of the new WIC system at the state and in the local agencies. The locations for the pilot will be negotiated during Subtask 1.4, Final Work Plan and Schedule. The pilot is expected to last for three calendar months prior to the evaluation and one additional month while preparations are made for rollout to the remaining agencies.

The D&IC will be the system operator with responsibility for day-to-day operation of the central processing system during the pilot site operations, therefore the D&IC's staff will oversee the pilot and provide consultation and assistance as needed.

Subtask 5.6. Evaluate Pilot, Modify and Retest System

Informal evaluation of the system software begins concurrently with the start of the pilot. Corrections and regression testing of updated versions must occur as problems are encountered. Nebraska is not expecting each problem to be immediately corrected and implemented in a new release. Dependent upon the nature and extent of the defects identified, it is possible that only a single new release, following completion of Pilot and preceding rollout, will be required. However, should a serious defect be encountered that must be immediately addressed, Nebraska requires that the D&IC correct the deficiency and provide a new release mid-Pilot to address the problem. Prior to the start of the pilot test, a Regression Acceptance Test must be developed by the D&IC in consultation with Nebraska staff and the QA contractor. This test, based on the D&IC's own internal test procedures, must be used to test modifications and corrections made in response to problems identified during the pilot, before they are released to the pilot users. The Regression Acceptance Test is designed to test overall system operability after modifications have been installed but before release of the software to the user community. It does not replace the normal development testing required for changes. Its primary purpose is to ensure that the changes do not affect other aspects of system functionality. The test must use standardized inputs and known outputs to assess the impacts of changes.

If and when software errors are encountered during the conduct of the system pilot, new versions of the system with the errors corrected must be programmed and tested by the D&IC. After correction and testing of each new version, the Regression Acceptance Test will be run against that version to check that the error correction has not introduced new errors elsewhere in the system. If there are any outstanding errors at the end of system pilot, there will be one last version produced by this process that corrects the remaining errors, and that version will be installed and run for five working days at the pilot agencies before the system is rolled out to the remaining agencies. The purpose of these five additional days is to ensure that there are no errors introduced into the latest version of the system that were not caught by the Regression Acceptance Test.

Within ten days following the end of the pilot, the D&IC, with input from the pilot agencies, will complete and submit an evaluation of the system pilot. The evaluation will address the following factors:

- System stability;
- Meeting functional requirements;
- User satisfaction;
- Impact on client flow and convenience;
- Impact on clinic operations;
- Availability and accuracy of state level data;

- Adequacy of help messages and user documentation;
- Security and system integrity; and,
- Need for modification of system or user processes.

The results of the evaluation will be documented in a report to be delivered to the DHHS Project Coordinator and the QA contractor. The DHHS Project Coordinator under the direction of the Project Director must approve all system revisions resulting from the evaluation of the pilot. Following any system revisions made, the contractor will conduct an abbreviated acceptance test (if deemed necessary by Nebraska) with Nebraska and QA contractor participation as directed by the Project Manager. Following the evaluation of the Pilot and remedy of any remaining defects, the D&IC must certify the system as ready for implementation statewide. The QA contractor will also be required to conduct an evaluation and provide an independent certification of the system readiness for implementation. Upon state acceptance of these certifications, statewide rollout may be initiated.

IX.6.6. TASK 6 - Rollout

In this task the D&IC conducts, supports, and facilitates the rollout of the system to the non-pilot agencies. After successful completion of the pilot, the system will be rolled out to the remaining agencies. Rollout will occur over a ten week period. To meet this time frame, multiple agencies rolled out per week will be required. Each agency will be trained in the use of the new system one week, will have data converted from the legacy system on a Friday, and be ready to begin using the system the next Monday. As one group of agencies begins using the new system, the next group will begin its training. (The contractor should specify the number of days of training required and work with the state on the rollout schedule.)

The following subtasks have been identified as necessary to this task effort:

Subtask 6.1. System Rollout Initiation Meeting

Following successful completion of the system pilot, the Nebraska Project Manager will convene a meeting at the Nebraska State Office. The meeting must be attended by the D&IC's project manager, the QA contractor, and other Nebraska agency staff as deemed necessary. The purpose of the meeting will be to discuss and review the project plan, schedule, and deliverables for the rollout of the Nebraska WIC system to the remaining agencies. Within five working days of the meeting the D&IC is to provide a technical memorandum documenting all agreements, understandings and contingencies resulting from the system rollout initiation meeting.

Subtask 6.2. User Training, Conversion, and Implementation

Subsequent to a successful system pilot, the D&IC must conduct a Train-the-Trainer Training event for selected Nebraska staff. Nebraska staff will assist in providing the

training for each local agency as it rolls out; and, therefore, these individuals must receive appropriate training to accomplish this task. The session will include a special emphasis on answering questions that may arise during the local agency training from clinic staff. Training must comprehensively address all system operations as well as security considerations.

Concurrent with the training events, the contractor must convert each local agency's participant database from the legacy systems and install it on the new system.

The contractor must propose a training plan sufficient to ensure training of all staff that must utilize the system.

As soon as the database is converted to the new system and training provided, each local agency will be able to hold clinics and use the new system in their clinics.

Approximately four days following system rollout to the first group of local agencies, a meeting will be convened by conference call to identify any problems that must be fixed before rollout to the remaining agencies. The meeting will be attended by the D&IC, the DHHS Project Coordinator, the Project Manager, the QA contractor, and other Nebraska staff as determined necessary. If no significant deficiencies are identified, the Steering Committee will make the decision to proceed with rollout to the next group of agencies.

Subtask 6.3. Post Implementation Problem Resolution and Checkpoint

Any problems encountered during the initial system operation are to be remedied, subject to regression testing, and provided to operational sites as a new system release. If any deficiencies in the system functional requirements, technical operation, or reliability are identified, the D&IC will be required to repair these at no cost to Nebraska. All such remedy must be provided within a reasonable time frame.

Approximately five days following rollout to the final local agency, a meeting will be convened by conference call in which the status of the system following complete rollout will be assessed. The meeting will be attended by the D&IC, the Nebraska Steering Committee and Project Manager, the QA contractor, and selected other Nebraska staff. Within two weeks following this meeting, the Steering Committee will determine whether the project can proceed to Task 7, Operation and Maintenance and Initial Warranty Period.

Subtask 6.4. System Documentation Update

Upon completion of system implementation the D&IC must update all system documentation, functional, technical, operational and user manuals, to reflect any revisions made to the system. The D&IC must provide a complete set of documentation to Nebraska in electronic and hard copy. All versions of materials that are actual documents must be submitted in both hard copy and electronic form in the current version of MS WORD.

IX.6.7. TASK 7 - Initial Warranty Period

In this task the D&IC provides system operations and maintenance support to Nebraska and provides for a one-year warranty of the software against errors and defects.

The following subtasks have been identified as necessary to this task effort:

Subtask 7.1. System Operation and Maintenance

Should Nebraska elect to contract for system operations and maintenance, the D&IC will continue to provide system operations and maintenance.

Subtask 7.2. Nebraska State's Operation and Maintenance Staff Training and Mentoring

In the event Nebraska elects to operate the system in house, the D&IC must provide support and mentoring to the Nebraska operations staff during the warranty period sufficient to ensure their ability to assume responsibility for the system upon contract closure.

Subtask 7.3. One-Year Warranty Period

The one-year warranty period for the system software must commence on the business day immediately following the implementation of the final Nebraska local agency (the last agency in the state to be implemented). During the one- year warranty the D&IC must address any deficiencies in the system at no cost to Nebraska.

Subtask 7.4. System Problem Reporting

The D&IC must provide the DHHS Project Coordinator with a written response to any reported system problem, addressing the technical nature of the problem and the proposed plan to resolve the issue. All approved change orders by the Nebraska Steering Committee must be documented and tracked separately.

Subtask 7.5. System Modification

The D&IC must remedy any deficiencies identified in the system during the one- year period at no cost to Nebraska. All software modification and repairs must be subject to regression testing prior to distribution as a new release. Additionally, Nebraska at its discretion may request that the D&IC conduct modifications and enhancements to the system deemed necessary or desirable. In this event the D&IC will be requested to prepare an estimate for the requested modification. Should Nebraska then elect to proceed, the modification will be treated as a change order to the contract.

These changes will be designed, developed, tested and implemented on a mutually agreed upon schedule. The contractor will involve state operations staff so that they can become familiar with the system enhancement process. Costs for these changes must be negotiated based on the rates quoted in the cost proposal. The contractor must provide

documented test results and updated system documentation prior to implementation of the change.

IX.6.8. TASK 8 - Project Closure and Transition

In this task the D&IC provides a final submission of the updated system documentation and other project materials, supports the transition of the system operations and maintenance responsibilities to the system operations staff (unless Nebraska contracts for on-going system operations), and achieves formal project closure.

The following subtasks have been identified as necessary to this task effort:

Subtask 8.1. Final System Documentation, Forms, Source Code, Data, and Other Materials

Upon completion of the one-year warranty period the D&IC is to provide Nebraska with a final, updated version of all system documentation and user materials reflecting the current status and operations of the system. The D&IC must also provide Nebraska with a complete set of source code for the current system. Additionally, the D&IC is to return to Nebraska any materials, forms or data sets acquired during the course of the project effort.

Subtask 8.2. Contract Closure

Upon completion of subtask 8.1, Nebraska will provide all final payments owed to the D&IC and will provide formal notification of contract closure.

IX.6.9. TASK 9 - Extended Warranty and Operation Period Options

Subtask 9.1. Extended Warranty Period

At the expiration of the one-year warranty period, the extended warranty period options may be exercised by Nebraska. The D&IC must offer five, one (1) year warranties on the system software for services similar to the initial one-year warranty (subtask 7.3) at the option of the Nebraska State WIC Programs. During the extended warranty period, the contractor will be responsible for correcting all errors in the system software. The contractor must have qualified staff available as needed during the extended warranty periods for repair or system enhancement purposes.

During the extended warranty period the Nebraska Help Desk must communicate regularly with the contractor to report the nature and type of problems identified. The Contractor must advise Nebraska of any solutions that do not require programming fixes.

Subtask 9.2. System Modification

During the extended warranty period, Nebraska may request the D&IC to make enhancements to the existing system. These changes will be designed, developed, tested and implemented on a mutually agreed-upon schedule. Costs for these changes must be

negotiated based on the rates quoted in the cost proposal. The contractor must provide documented test results and updated system documentation prior to implementation of the change. Maintenance required to the system to meet the system and functional requirements approved prior to Subtask 7.3, One-Year Warranty will be covered by the agreed-upon fees for the extended warranty.

Subtask 9.3. System Operations

At the conclusion of system implementation the extended operations options may be exercised by Nebraska. The D&IC must offer five, one (1) year periods of system operations for housing, operating and maintaining the Nebraska system. During the operations option periods the contractor must provide all services necessary to the operation of the system inclusive of hosting the servers (if so desired by Nebraska), maintaining the system, providing day-to-day operations, maintaining the network, and providing the help desk. During the extended operations period the warranty provisions addressed in Subtask 9.1 will also apply. However, system enhancement and modification is to be addressed separately during the operations options if exercised. All system modifications during this period will be addressed according to the provisions in Subtask 9.2.

IX.7. *List of D&IC Project Deliverables*

Nebraska has defined a set of thirty-eight (38) required deliverables to complete the work associated with the tasks described in Section IX.6, above. These deliverables have been separated into two recurring deliverables and thirty-five (35) task related deliverables, as follows:

[Note: The following list of Contract Deliverables is derived from the tasks and subtasks outlined in Section IX.6. They are listed separately here for ease of reference and should be considered in conjunction with the Task Plan when evaluating the scope of work. Many of the deliverables in this list will be required to be submitted in draft form for review and comment by Nebraska. Upon receipt of Nebraska's consolidated comments and required revisions, the contractor will be required to submit a final version of these deliverables incorporating revisions as appropriate. The requirements for each of these D&IC project deliverables are described in detail below. All versions of deliverables that are actual documents must be submitted in both hard copy and electronic form in the current version of MS WORD. Subsequent electronic versions of drafts (including the final version) must be submitted with changes tracked. "Documentation" as related to user manuals and on-line help, etc. is intended to convey that in addition to paper copies of system documentation to be provided for review purposes, Nebraska understands that the MPSC system uses on-line user help in place of manuals often provided in hard copy. It should be noted that when training users to use online documentation, a limited number of quick reference tip sheets may be requested by users at trainings, the contractor should be prepared to develop and distribute such supportive materials as a complement to on-line help and user documentation.]

Figure 19: Nebraska Required D&IC Deliverables

Recurring Deliverables

Deliverable 0: Project Status Reports

Deliverable 00: Meeting Summaries

Task Related Deliverables

Deliverable 1: Project Initiation Meeting and Memorandum
Deliverable 2: System Transfer, Modification and Testing Plan
Deliverable 3: Final Work Plan and Schedule
Deliverable 4: System Orientation Training
Deliverable 5: System Design Sessions
Deliverable 6: Updated Detailed Functional Design Document
Deliverable 7: Updated Detailed Technical Specifications Document
Deliverable 8: Implementation, Conversion, Training, and Security Plans
Deliverable 9: System Transfer Initiation Meeting and Memorandum
Deliverable 10: System Transfer, Modification, and Technical Testing
Deliverable 11: User Training Materials
Deliverable 12: Help Desk Plan
Deliverable 13: Updated User and Operations Manuals
Deliverable 14: Readiness Certification for UAT/System Software
Deliverable 15: Installation/Operation of System Software/Operations Staff Support and Training - UAT
Deliverable 16: User Training - UAT
Deliverable 17: Data Conversion - UAT
Deliverable 18: Acceptance Test Support
Deliverable 19: Assessment of Nebraska Disaster Recovery Procedures/Disaster Plan
Deliverable 20: Assessment and Certification of System Readiness for Pilot Implementation
Deliverable 21: System Pilot Test Initiation Meeting and Memorandum
Deliverable 22: Help Desk Training
Deliverable 23: User Training - Pilot
Deliverable 24: Regression Acceptance Test
Deliverable 25: Installation/Operation of System Software – Pilot Test
Deliverable 26: Data Conversion - Pilot
Deliverable 27: System Pilot Support
Deliverable 28: System Pilot Technical Memorandum
Deliverable 29: System Rollout Initiation Meeting and Memorandum
Deliverable 30: Conduct Train the Trainer Training for Nebraska Staff
Deliverable 31: User Training – Rollout
Deliverable 32: Data Conversion - Rollout
Deliverable 33: Post-Implementation Assessment and Problem Resolution
Deliverable 34: System Warranty
Deliverable 35: System Maintenance, Support and System Transition Plan
Deliverable 36: Final System Documentation Update, Forms, Source Code, Data

and Other Materials
Deliverable 37: Options to Extend Warranty Period
Deliverable 38: Options for System Operations

The requirements for each of these D&IC project deliverables are described in detail below.

IX.7.1. Recurring Deliverables

The following deliverables will recur throughout the project on a scheduled basis:

Deliverable 0: Project Status Reports and Meetings

The D&IC must provide monthly, detailed reports on overall project status, work accomplished in the reporting period, objectives for the next reporting period, client responsibilities for the next period, decision/information requests outstanding, problems and warnings, and schedule and budget issues. In addition, the contractor must provide a quarterly summary status report to support Nebraska reporting to USDA/FNS. As a supplement to formal monthly reports, the D&IC must participate in biweekly project status meetings via conference calls. The meetings will serve as a forum for the reporting of progress and discussion of upcoming activities and emergent issues. The Nebraska Project Manager will host and provide an agenda (with input from the state and contractors) for the meetings.

Deliverable 00: Meeting Summaries

Throughout the course of the project, numerous meetings will be held between the contractor and Nebraska. During these meetings, various project related topics and issues will be discussed and reviewed. The contractor will provide a technical memorandum summarizing each meeting, inclusive of a listing of attendees, discussion of major topics, and a report of any decisions made and items needing follow-up.

IX.7.2. Task Related Deliverables

Task 1 – Project Initiation, Planning and Management

Deliverable 1: Project Initiation Meeting and Memorandum

The D&IC must conduct a Project Initiation Meeting with selected Nebraska, QA and Project Management staff. The Project Initiation Meeting Memorandum must provide a summary of decisions and plans resulting from the project initiation meeting involving the D&IC, the QA contractor, and Nebraska, which clarify any revisions to the project objectives, timeline, etc. The memorandum is to be provided within five working days of the meeting.

Deliverable 2: System Transfer, Modification and Testing Plan

The plan must describe, in detail, the contractor's approach to the transfer, modification, and implementation of the new Nebraska WIC system. The Transfer, Modification and Testing Plan must include a description of the structured system life cycle development methodology to be employed throughout the project. Subjects to be covered include: the system transfer and modification process; the methods for maintaining requirements traceability throughout the development process; types of test activities and staffing, and the change control and configuration management processes. The plan must include a discussion of the contractor's approach to quality control, dispute resolution process, and security. The plan must reflect the results of discussions with Nebraska staff regarding the final design of the system.

The change control and configuration management portion of the Plan will detail the contractor's approach to version control and should include, at a minimum:

- How the contractor will assign identification numbers to releases of the system (e.g., version#**.**build#, where version# = the number of the latest entire system release and *build#* = the number of the latest release containing a single or a few module updates);
- How the contractor will implement check out/check in of system modules inclusive of automated support and control;
- How releases of the system will be archived (e.g., each new version will be archived, as will each build since the last archive);
- Procedures to ensure that only one release of the system is being system tested (either internally or in UAT) at any given time; and,
- Procedures to ensure that only one release of the system is operational at any time in all installations during pilot, rollout, and operations.

Deliverable 3: Final Work Plan and Schedule

The D&IC must provide a Final Work Plan and Schedule to be provided for review and approval by Nebraska. The plan must include complete and accurate task descriptions and dependencies. It must also include a description of any known risk areas and the contractor's approach for mitigating the risks. The work plan must be submitted in sufficient detail to afford Nebraska full visibility into the status of all project activities during the course of the project effort.

The D&IC must provide as a component of the Final Master Work Plan and Schedule a comprehensive schedule for the project in both standard calendar and Gantt chart format for Nebraska's review and approval. It must be developed in an automated project management package such as Microsoft Project and include the ability to calculate and display the critical path at any point in the project.

The schedule must incorporate all D&IC requirements (deliverables and milestones) and Nebraska requirements such as review periods for deliverables, schedule of staff participation in system review/design sessions, design document (DFDD) walkthroughs, user acceptance testing, training sessions, pilot testing, rollout, and transition and closure. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval.

Deliverable 4: System Orientation Training

The D&IC must provide comprehensive system training to the super users prior to the initiation of system design. The training must address all system operations and be based on the training plan, materials, and approach that will be employed for pilot and rollout training.

Task 2 – System Design

Deliverable 5: System Design Sessions

The D&IC must conduct joint application design (JAD) sessions (estimated to require ten (10) sessions of eight hours duration each or equivalent). The contractor must work with Nebraska to arrive at a suitable schedule and sufficient duration for these meetings. The meeting schedule will be subject to Nebraska approval. These meetings must be held with appropriate staff from Nebraska, as selected by the Steering Committee, and the QA contractor. The D&IC must lead these sessions and must bear responsibility for tracking and recording all design decisions. Given this requirement, it is recommended that the D&IC provide a lead program analyst to direct each session and a junior staff member to record all discussions and decisions. The D&IC is requested to suggest a suitable schedule for these activities potentially inclusive of concurrent JAD sessions for different functional areas of the system in order to expedite the design activity.

The purpose of the JAD sessions is to confirm or define the details of the requested functional modifications to the MPSC WIC system. The JAD sessions must be conducted early enough in the detailed design process to ensure incorporation of all decisions made during the reviews into the updated DFDD. While revised sections of the DFDD may be presented for consideration during the JAD sessions, the final, updated DFDD must not be submitted until all JAD sessions have been successfully concluded and all design decisions and specifications have been incorporated in the document. The JAD sessions must be held at Nebraska State offices or alternative sites as designated by the DHHS Project Coordinator.

Deliverable 6: Updated Detailed Functional Design Document

The D&IC must update the existing MPSC Detailed Functional Design Document (DFDD) to describe the modifications to the functional requirements of the system. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval. The draft submission must be accompanied by a formal walk-through of the revisions to the document with designated state staff and the QA contractor and an

appropriate review period (i.e., twenty working days for the draft and ten for the final). All revisions to the existing DFDD must adhere to the form and content standards of the current document.

The updated DFDD, once formally accepted by Nebraska, will form the basis for the modifications and enhancements to the system. The DFDD forms part of the overall system documentation and must be kept current and maintained in accordance with configuration management standards throughout the life of the contract. A walkthrough of the DFDD for the Nebraska staff and the QA contractor will be conducted by the D&IC to validate that the system modifications specified in the JAD sessions are all included in the DFDD. Approval of the DFDD will be required before system development activities in Task 3 may begin.

Deliverable 7: Updated Detailed Technical Specifications Document

Pursuant to the development of this deliverable, the D&IC must conduct a technical specification workgroup session. This meeting will be held with appropriate Nebraska project management and technical staff and the QA contractor to ensure that the appropriate staff understands the presentation and organization of the technical specification documents prior to reviewing them.

Subsequent to the technical specification session, the D&IC must update the existing Detailed Technical Specifications Document (if necessary) for the system. All revisions to the existing DTSD must adhere to the form and content standards of the current document. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval. The draft submission must be accompanied by a formal walk-through of the revisions to the document with designated state staff and the QA contractor and an appropriate review period (i.e., twenty working days for the draft and ten for the final).

Deliverable 8: Implementation, Conversion, Training, and Security Plans

The D&IC must provide detailed plans for implementation of the new system, conversion of data from the existing system to the new Nebraska WIC system, training staff in the operation of the new system, and maintenance of security for the new system.

The implementation plan must include, in Gantt format, the portion of the overall project schedule (brought up to date as of submission of the deliverable) that includes all tasks subsequent to system transfer and modification by the D&IC, including contractor milestones and Nebraska tasks (e.g., developing new policies and procedures) and checkpoints. Alternatively, the deliverable may refer to the overall project schedule if all tasks are included and the overall schedule is up to date. The plans should include a detailed description of each task within the four areas (implementation, conversion, training, security). The plans should encompass the contractor's approach for the following 1) a draft Nebraska implementation schedule, 2) conversion and testing of converted data, 3) state office and clinic staff training, and 4) how security will be

maintained in the new WIC system. Each Plan in this deliverable is to be presented in the forms of a Draft version for review and a Final version for approval.

Task 3 - System Transfer, Modification, and Technical Testing

Deliverable 9: System Transfer Initiation Meeting and Memorandum

The D&IC is to convene a development and testing phase initiation meeting to be attended by designated Nebraska staff and the QA contractor. Following the meeting, the D&IC must provide a technical memorandum documenting all agreements, understandings and contingencies resulting from the meeting. The memorandum is to be provided within five working days of the meeting.

Deliverable 10: System Transfer, Modification, and Technical Testing

Based on the specifications developed during the design sessions and documented in the updated DFDD and DTSD, the D&IC must modify the system to meet the new functional requirements and conduct thorough technical testing of the system prior to presentation for User Acceptance Testing. During this activity, the D&IC must provide prototype modified software modules for review by the State. This process will help ensure that the system presented for testing faithfully realizes the system enhancements and modifications requested by Nebraska. While the updated SDFDD should provide a detailed description of the required modifications, it is possible that there will be a misunderstanding of functional requirements between Nebraska WIC and the D&IC. The prototype demonstrations will provide an opportunity to identify and correct any such misunderstandings. Should any variance between desired and prototyped functionality exist, the D&IC must work with the state to clarify the requirement and subsequently modify the prototype and provide a demonstration of the corrected functionality.

Deliverable 11: User Training Materials

The D&IC must provide comprehensive materials for use in system training. These materials may be drawn from the existing MPSC training materials but must be updated and revised to address Nebraska-specific functionality and business practices. Training must address all aspects of system use and all security considerations. This deliverable must include materials that may be used by clinic and state office WIC staff for system training after the conclusion of the implementation phase of the project. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval. In addition, the contractor must develop and install a training/test area on the system servers for new employee training and enhancement testing. Nebraska understands that the MPSC system utilizes on-line help instead of hard copy user manuals. It should be noted that when training users to use online documentation, a limited number of quick reference tip sheets may be requested by users at trainings, the contractor should be prepared to develop and distribute such supportive materials as a complement to on-line help and user documentation.

Deliverable 12: Help Desk Plan

The D&IC must provide a plan providing recommended equipment, software, and staffing requirements for a Help Desk to be provided by Nebraska. The deliverable must include a training plan and materials for Help Desk staff, a schedule for implementation of the Help Desk coordinated with system transfer, modification, and testing activities, and instructions for establishing a database of problems and solutions. The report will describe coordination procedures between the D&IC and Nebraska to ensure that problems are routed to the contractor in a timely manner when appropriate. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval.

Deliverable 13: Updated User and Operations Manuals

- The D&IC must update existing user and operations manuals (on-line and/or hard copy) for the MPSC system to address the Nebraska modifications. All revisions to the existing manuals must adhere to the form and content standards of the current materials. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval.

Deliverable 14: Readiness Certification for UAT/System Software

Upon completion of system technical testing, the D&IC must provide formal, written certification of system readiness for User Acceptance Testing (UAT). The certification must include detailed information on all errors identified during migration testing and their remedy. The certification must verify that the D&IC staff are able to conduct full system testing from start to finish with no identified outstanding errors.

In addition, the D&IC must provide fully developed system source code and executable code for the local and state office applications to be operated at the central processor in support of UAT. Any required software application packages for operation of the Help Desk must also be provided. The software must conform to all functional and technical specifications agreed to by the D&IC and Nebraska during the project and be thoroughly tested prior to delivery to Nebraska for UAT. The contractor must provide the source code and executable code to Nebraska for independent testing two weeks prior to UAT.

Task 4 – User Acceptance Test (UAT)

Deliverable 15: Installation/Operation of System Software/Operations Staff Support and Training - UAT

The D&IC must provide on-site installation and operation of the WIC software application and communications software necessary for operation of the system in support of UAT, both at the central processor and the test bed. The contractor must install the application and communications software themselves at their own facility and run it for their own testing before delivery to Nebraska. Upon delivery to Nebraska for

UAT, as a part of UAT preparations, the D&IC must install the application and communications software on all the test bed.

Deliverable 16: User Training – UAT

The D&IC must provide comprehensive system training to the end-users who will conduct acceptance testing. The training must address all system operations and be based on the training plan, materials, and approach that will be employed for pilot and rollout training.

Deliverable 17: Data Conversion – UAT

The system installation for UAT must include a specified set of data converted by the D&IC from the legacy system as designated by Nebraska.

Deliverable 18: Acceptance Test Support

The D&IC must provide on-site support in the form of at least one staff person knowledgeable in the application for the duration of the UAT and ensure that programming staff are available for consultation by phone. In addition, the D&IC must provide repair of all errors reported during the UAT within the contractor's established Change Control and Configuration Management methodology. As a component of this support, the D&IC must supply and install the software application to be utilized for reporting and tracking of UAT errors. Nebraska anticipates that the period of User Acceptance Testing will be ten (10) weeks in duration not inclusive of breaks in testing for defect repairs.

Deliverable 19: Assessment of Nebraska Disaster Recovery Procedures/Disaster Plan

Prior to and during the acceptance test, the D&IC must conduct an assessment of the Nebraska system disaster recovery procedures. The assessment must include identification of any deficiencies in the Nebraska approach and provide suggestions for improvement as needed. The D&IC is to prepare a comprehensive Disaster Plan specific to the new system, building upon and incorporating Nebraska Disaster Plan provisions. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval.

Deliverable 20: Assessment and Certification of System Readiness for Pilot Implementation

Upon completion of UAT, the D&IC must provide formal, written assessment and certification of system readiness for Pilot Implementation. The certification must include detailed information on all errors identified during UAT and their remedy (this may be provided by automated reporting capabilities of the error tracking application employed). The certification must verify that the D&IC certifies error free operation of the system and stability sufficient to be implemented in pilot installations. The memorandum is to be provided within five working days of the completion of UAT.

Task 5 – Pilot Test

Deliverable 21: System Pilot Test Initiation Meeting and Memorandum

The D&IC is to convene a pilot test phase initiation meeting to be attended by designated Nebraska staff and the QA contractor. Following the meeting, the D&IC must provide a technical memorandum documenting all agreements, understandings and contingencies resulting from the meeting. The memorandum is to be provided within five working days of the meeting.

Deliverable 22: Help Desk Training

The D&IC must conduct training sessions for the Nebraska Help Desk staff. The training must address the help desk process, issue escalation, and the use of the help desk software.

Deliverable 23: User Training - Pilot

The D&IC must conduct user training sessions for the state agency and local agencies involved in the system pilot as described and supported by the approved Training Plan and Training Materials. Training must address all required system operations as well as security considerations.

Deliverable 24: Regression Acceptance Test

The D&IC must provide a set of test procedures for use in testing modifications and corrections made in response to problems identified during the pilot, before they are released to the pilot users. It must test all the basic functionality of the system, with pre-defined inputs and expected outputs, but will test only a small sample of the system reports. This deliverable is to be presented in the form of Draft version for review and a Final version for approval.

Deliverable 25: Installation/Operation of System Software – Pilot Test

The D&IC must provide on-site installation and operation of the WIC software application and communications software necessary for operation of the system in support of pilot, both at the central processor and the pilot sites.

Deliverable 26: Data Conversion – Pilot

The D&IC must convert all data from the legacy system necessary to support the Pilot test.

Deliverable 27: System Pilot Support

The D&IC must monitor the Pilot test and provide repair of all errors reported during the system Pilot within the contractor's established Change Control and Configuration Management methodology. The D&IC must provide on-site support in the form of at

least one staff person knowledgeable in the application during the first two weeks of System Pilot and programming staff knowledgeable in the application available for consultation by phone for the duration of the system Pilot. After on site support the contractor must be able to problem solve, fix, and restart the system from a remote location.

Deliverable 28: System Pilot Technical Memorandum

Upon completion of the Pilot test, the D&IC must provide a technical memorandum describing the pilot results, including all identified errors and problems and their remedy. The memorandum must include the D&IC's assessment and verification of the system readiness for roll out.

Task 6 – Data Conversion and Rollout

Deliverable 29: System Rollout Initiation Meeting and Memorandum

The D&IC is to convene a rollout phase initiation meeting to be attended by designated Nebraska staff and the QA contractor. Following the meeting, the D&IC must provide a technical memorandum documenting all agreements, understandings and contingencies resulting from the meeting. The memorandum is to be provided within five working days of the meeting.

Deliverable 30: Conduct Train-the-Trainer Training for Nebraska Staff

The D&IC must conduct Train-the-Trainer training sessions for Nebraska staff following the system pilot. Subsequent to this training, Nebraska staff will assist the D&IC in the conduct of training for all rollout agencies. Training must address all required system operations as well as security considerations.

Deliverable 31: User Training – Rollout

The D&IC and super user staff must co-conduct local agency/clinic staff training. This training will consist of a system overview for all local agency/clinic staff and functionally specific training for staff that will utilize various functions of the new system. The training will provide real-world examples of system tasks for each staff responsibility and program functional area. To the extent there is separation of responsibility between clinic staff, support staff will be trained in functions of the system related to their duties, such as participant data input, FI issuance, and appointment scheduling. Nutritionists and other professional or health assessment staff will be trained in functions of the system related to health assessment, certification, etc. The training must take into account that in many local agencies/clinics, there are only a few staff and each person may need to be trained in a number of functions. This training will also cover the material and online help participants will use with the web interface.

Any changes in agency policies and procedures resulting from the new system will be incorporated into the training. The trainings will be held in several locations around the State for groups of local agency/clinic staff. Training groups will not exceed thirty

participants. Local agency/clinic staff must be trained the week prior to their clinics going live to ensure retention of necessary skills.

D&IC staff must also conduct State Agency staff training. This training will consist of functionally specific training for all Nebraska State Agency staff that will utilize the new system. The training will include hands-on examples of system tasks for each program operational area. Different training sessions will be provided for each program functional area and will provide real-world examples of system tasks. Training in some functional areas may extend beyond immediate State Agency staff and may involve staff in other state resources (e.g., finance).

As with the local level staff training, any changes to state agency policies and procedures resulting from the new system must be incorporated into the training.

Deliverable 32: Data Conversion – Rollout

The D&IC must convert all data from the legacy system for each local agency in advance of their implementation of the new system. As the local agencies will not be able to utilize the legacy system once the data has been converted it is anticipated that data conversion for each agency will occur during the week in which the local agency is being trained.

Deliverable 33: Post-Implementation Assessment and Problem Resolution

Approximately five working days from the completion of rollout of the final local agency, the D&IC must participate in a meeting in which the status of the system following rollout will be assessed. Within five days of the meeting the D&IC must provide a technical memorandum documenting all agreements, understandings and contingencies resulting from the system rollout assessment meeting.

Task 7 – Initial One-Year Warranty

Deliverable 34: System Warranty

The D&IC must provide a one-year warranty of the system software against all defects and errors beginning with completion of the rollout process (the completion of the final clinic installation in the state). Any defects or errors identified in the system during the warranty period must be remedied at no charge by the D&IC.

Task 8 – Project Closure and Transition

Deliverable 35: System Maintenance, Support and System Transition Plan

The D&IC must provide a written plan for the transition of system operation and maintenance from the D&IC to the state or system operation contractor, if applicable, including notification of any procedural, staffing, or resources requirements. This deliverable is to be presented in the form of a Draft version for review and a Final version for approval.

Deliverable 36: Final System Documentation and Source Code

The D&IC must provide complete, updated system documentation (inclusive of electronic documentation such as on-line help or user manuals) that accurately reflects the state of the system as of completion of system rollout in all Nebraska agencies, including but not be limited to source code, user and operational manuals and training materials, and functional and technical design documents electronically and hard copy as required for all document deliverables.

In addition, the D&IC must provide the complete system source code including any and all modifications to the most recent release including updated training materials and other system documentation. The D&IC must also return any forms, data, or other materials acquired from Nebraska during the course of the project effort.

Task 9 - Extended Warranty and Operation Period Options

Deliverable 37: Options to Extend Warranty Period

The D&IC must provide for five one-year extensions after the initial warranty period, to be exercised at each Nebraska State's option. If any changes are made to the software application during these warranty periods, the contractor must provide the following items updated to reflect any and all changes:

- System source and executable code for the local, state, and central processor WIC applications;
- Comprehensive materials for use in system training;
- User and operational manuals; and,
- Functional and technical design documents.

During the extended warranty period, Nebraska may request the D&IC to make enhancements to the existing system. These changes will be designed, developed, tested and implemented on a mutually agreed-upon schedule. Costs for these changes must be negotiated based on the rates quoted in the cost proposal. The contractor must provide documented test results and updated system documentation prior to implementation of the change. Maintenance required to the system to meet the system and functional requirements approved prior to the One-Year Warranty will be covered by the agreed-upon fees for the extended warranty.

Deliverable 38: Options to Operate and Maintain System

The D&IC must provide options for five one-year periods of system operations exercisable by Nebraska. During these optional periods, if exercised, the contractor will be responsible for housing, operating and maintaining the new Nebraska system. During the operations option periods the contractor must provide all services necessary to the operation of the system inclusive of hosting the servers, maintaining the system,

providing day-to-day operations, maintaining the network, and providing the level 2 help desk. During the extended operations period the warranty provisions addressed above will also apply. However, system enhancements and modifications are to be addressed separately within the operations options if exercised. All system modifications during this period will be addressed according to the provisions in Deliverable 36.

IX.8. *QA Project Task Plan and Deliverables*

Nebraska intends to procure the services of a Quality Assurance (QA) contractor to help support and ensure Project success. The tasks, activities, and deliverables for the QA contractor will be reflective of and responsive to the D&IC, tasks, activities, and deliverables provided above.

The general role of the QA contractor in the Project may be described as follows:

- Assuring the accurate documentation and monitoring of system specification and requirements;
- Evaluation, recommendation, and implementation of potential enhancements of project processes, output, and decision processes;
- Establishment of procedures and conditions for User Acceptance Testing of system operations;
- Establishment of content and evaluation criteria, and review and comment, on PC deliverables; and,
- Certification that the system meets the State's WIC expectations and complies with USDA mandates, functional and technical specifications, and performance standards.

The detailed schedule of tasks, activities, and deliverables for the QA contractor will be developed and incorporated in the QA Request for Proposals as the D&IC tasks, activities, and deliverables are finalized with the approval of this IAPD.

IX.9. *Nebraska (Client) Project Tasks and Activities*

The following section provides a high-level view of the preliminary tasks and activities that have been identified for Nebraska (client) staff. Additional tasks may be identified in response to D&IC or QA contractor proposals, initiation meetings, or Master Work Plans.

IX.9.1. Project Management

Nebraska will retain the services of a Project Management contractor (PM) for the duration of the Project effort. The Project Manager will be supported by the DHHS Project Coordinator in the conduct of the following activities on behalf of the Project:

Implementation Planning

The PM oversees the planning and implementation of the Nebraska WIC MIS. The PM formulates and reviews project milestones, work plans, resource allocations, systems development strategy, and reporting requirements on behalf of the State. As an ex officio member of the Nebraska Steering Committee, the PM contributes to policy development, business operating rules, and project decisions. The PM serves as the primary point of contact for contractors and USDA. The PM implements (or communicates to contractors) policy decisions of the Nebraska Steering Committee. The PM leads the implementation of the information system and assures quality management processes are followed and that risk mitigation plans are identified and implemented.

Project Oversight

The PM provides oversight on project plans. The PM forms and plans a structured development process that considers the business and technical needs of all stakeholders. The PM regularly reviews project status with contractors, the Steering Committee and the project team. The PM tracks project schedule through the use of project management tools. The PM serves as a lead to contractors by facilitating and reviewing their project activities. The PM coordinates reviews by others of all deliverables, project phases, and milestones. The PM acts to identify best practices and risks to ensure the project stays on schedule and budget. The PM assesses risk to the project, identifies items that could cause failure, mitigates risks, and/or alerts management to the risks.

Activities Coordination

The PM organizes and guides the activities of the DHHS Project Coordinator and assures coordination and completion of Nebraska responsibilities in Joint Application Design (JAD) sessions, testing, training, piloting, rollout, and system documentation.

Reporting and Documentation

The PM is responsible for project reporting and documentation. The PM serves as the primary point of contact for all issues that arise during project planning, development, and deployment. The PM facilitates Nebraska Steering Committee meetings and calls, and meetings with contractors or other stakeholders. The PM assists the state in writing of documents required to provide justification and request for continuing funding. The PM provides written and verbal reports to the Steering Committee, USDA and contractors. The PM maintains a project documentation library

Stakeholder Communications

The PM will work with the Nebraska WIC Program and advise them to assure communications as necessary with all stakeholders (authorized WIC Retailers, banking services providers, Local Agency Directors, Local Agency IT Departments, telecommunications services providers, computer hardware vendors, IT oversight bodies including IS&T and the Chief Information Officer, and USDA).

IX.9.2. System Functional Design Participation

Nebraska has formed a Project Advisory Committee that is subdivided into groups for each functional area of the system to serve as a communicative authority regarding system functional requirements for their respective stakeholder segment and reporting to the Steering Committee. Each group consists of members representing the State Agency and local agency levels of the WIC Program. The groups will bear responsibility for participation in system detail design sessions, will conduct review and approval of system design documents, and will serve as test staff for UAT.

IX.9.3. System Technical Design Participation

Nebraska has a DHHS IS&T representative on the Steering Committee. In addition, Nebraska benefits from additional input on IT considerations at the department level. The DHHS IS&T participant will bear responsibility for participation in system detail technical design sessions and will conduct review and approval of system technical design documents.

IX.9.4. Deliverable Review and Approval

The Nebraska Steering Committee bears final responsibility for review, approval, and payment of invoices for all contractor tasks, activities, and deliverables (PM, QA and D&IC). As noted above, functional and technical document review is conducted by advisory groups and requests for revisions and other comments must be directed to the contractors through the Steering Committee. The PM will support Nebraska in developing a formal process for deliverable review and approval.

IX.9.5. Change Order Review and Approval

The Nebraska Steering Committee bears final responsibility for review and approval of all contractor requested change orders. The PM will support Nebraska in developing a formal process for the review and approval or denial of change orders.

IX.9.6. User Acceptance Testing

Nebraska must provide for staffing of sufficient end users to conduct meaningful and expedited user acceptance testing of the system. It is likely that the majority of system test staff must be drawn from the functional and technical advisory groups.

IX.9.7. End User Training

Nebraska will bear responsibility for the provision of trainers to support the D&IC in the conduct of end user training. Nebraska training staff will participate in D&IC conducted Train-the-Trainer exercises and will participate in end user training for system implementation for each local agency.

IX.9.8. System Hardware Acquisition

Nebraska will bear responsibility for the acquisition of all required central processor, State Agency, and local agency/clinic hardware necessary for the testing and implementation of the system unless system operations are outsourced. In the event system operations are outsourced, the D&IC may be requested to procure the necessary equipment for the central processor. Nebraska would expect these costs to be incorporated in the initial operations year costs.

IX.9.9. Clinic Facilities Preparation

Nebraska will bear responsibility for all central processor, state agency, clinic or other site modifications, inclusive of telecommunications requirements, necessary to support the installation and operation of the system. In the event Nebraska elects to contract for off-site operation and maintenance of the system, and particularly the central processor, the D&IC will bear responsibility for any required installations or modifications of their facilities used for these purposes.

IX.9.10. Memoranda of Understanding (MOUs) and Service Level Agreements (SLAs)

Nebraska will bear responsibility for the establishment of any and all MOUs or SLAs necessary between the state and local agencies, authorized retailers, or other parties necessary to ensure the correct installation, operation, and protection of security and integrity of the system.

IX.9.11. Facilities and Conference Call Provision

Nebraska will be responsible for the provision of suitable facilities for such activities as meetings, trainings, and user acceptance testing. In addition, Nebraska must provide for conference call lines when needed for Project status or specific issue or discussion calls inclusive of regular calls with the Steering Committee.

IX.10. *D&IC Project Schedule*

IX.10.1. Project Milestones

A listing of the Project Milestones is shown in the following Figure 20, including the procurement phase that begins with the projected release date for the Implementation Request for Proposal. A Gantt chart showing the complete schedule with all of the subtasks for System Transfer and Modification is displayed in Figure 21. As may be seen from the summaries, the anticipated Project schedule for system transfer and modification provides for a total of 652 working days through completion of Task 8, Project Closure and Transition.

The schedule shown addresses procurement and the D&IC activities, which will constitute the driving activities of the project schedule related to the QA and client tasks and activities. Upon award of the D&IC contract an initial D&IC task must be the development of a Final Work Plan for the D&IC project. Upon approval of this Plan the

QA contractor must develop and maintain an Integrated Master Schedule (IMS) for the Project inclusive of all D&IC, QA and client tasks, activities, deliverables and Project Milestones.

Figure 20: Project Milestones

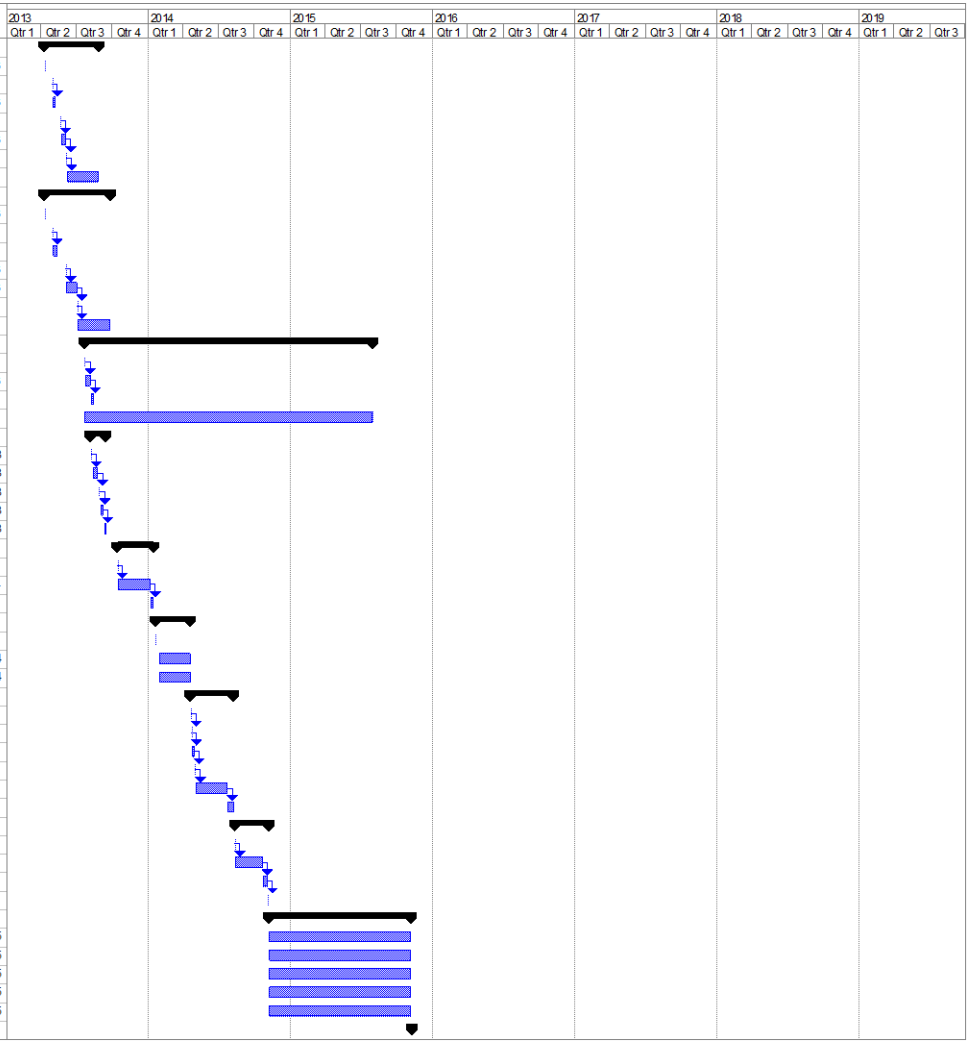
Milestone #	Milestone Name	Milestone Date
1	IRFP Release	4/8/13
2	D&IC Project Initiation	7/22/13
3	System Modification Design Complete	9/13/13
4	System Transfer, Modification and Technical Testing Complete	1/13/14
5	UAT Complete/System Certification for Pilot	4/18/14
6	Pilot Complete/System Certification for Rollout	8/7/14
7	Rollout Complete	11/5/14
8	Warranty Period Complete	11/6/15
9	Project Closure and Transition	11/9/15

IX.10.2. D&IC Project Gantt Chart

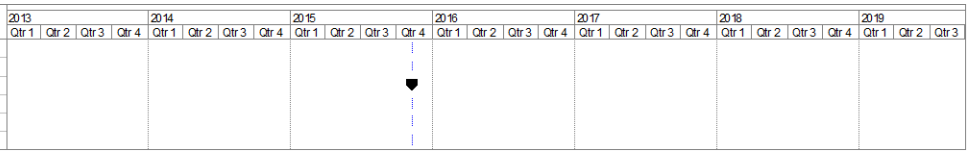
The Gantt chart below shows the D&IC project schedule by task.

Figure 21: Gantt Chart for D&IC

ID	Task Name	Duration	Start	Finish
1	**Task 00 - QA Procurement**	**102 days**	**Mon 4/8/13**	**Tue 8/27/13**
2	Subtask 00.1. QA RFP Release	1 day	Mon 4/8/13	Mon 4/8/13
3	Subtask 00.2. Bidders Questions Due	1 day	Mon 4/29/13	Mon 4/29/13
4	Subtask 00.3. Response to Questions	5 days	Tue 4/30/13	Mon 5/6/13
5	Subtask 00.4. Proposals Due	1 day	Mon 5/20/13	Mon 5/20/13
6	Subtask 00.5. Proposal Evaluation	10 days	Tue 5/21/13	Mon 6/3/13
7	Subtask 00.6. Contract Award	1 day	Tue 6/4/13	Tue 6/4/13
8	Subtask 00.7. FNS Contract Review/Approval	60 days	Wed 6/5/13	Tue 8/27/13
9	**Task 0 - D&IC Procurement**	**122 days**	**Mon 4/8/13**	**Tue 9/24/13**
10	Subtask 0.1. IRFP Release	1 day	Mon 4/8/13	Mon 4/8/13
11	Subtask 0.2. Bidders Questions Due	1 day	Mon 4/29/13	Mon 4/29/13
12	Subtask 0.3. Response to Questions	10 days	Tue 4/30/13	Mon 5/13/13
13	Subtask 0.4. Proposals Due	1 day	Mon 6/3/13	Mon 6/3/13
14	Subtask 0.5. Proposal Evaluation	20 days	Tue 6/4/13	Mon 7/1/13
15	Subtask 0.6. Contract Award	1 day	Tue 7/2/13	Tue 7/2/13
16	Subtask 0.7. FNS Contract Review/Approval	60 days	Wed 7/3/13	Tue 9/24/13
17	**TASK 1 - Project Initiation, Planning and Management**	**529 days**	**Mon 7/22/13**	**Thu 7/30/15**
18	Subtask 1.1. Project Initiation	1 day	Mon 7/22/13	Mon 7/22/13
19	Subtask 1.2. System Transfer, Modification, and Testing Plan	10 days	Tue 7/23/13	Mon 8/5/13
20	Subtask 1.3. Final Work Plan and Schedule	5 days	Tue 8/6/13	Mon 8/12/13
21	Subtask 1.4. Project Status Reporting	529 days	Mon 7/22/13	Thu 7/30/15
22	**TASK 2 - System Design**	**30 days**	**Mon 8/5/13**	**Fri 9/13/13**
23	Subtask 2.1. System Orientation Training	5 days	Mon 8/5/13	Fri 8/9/13
24	Subtask 2.2. System Design Sessions	10 days	Mon 8/12/13	Fri 8/23/13
25	Subtask 2.3. Updated Detailed Functional Design Document (DFDD)	5 days	Mon 8/26/13	Fri 8/30/13
26	Subtask 2.4. Updated Detailed Technical Specifications Document (DTSD)	5 days	Mon 9/2/13	Fri 9/6/13
27	Subtask 2.5. Implementation, Conversion, Training, and Security Plans	5 days	Mon 9/9/13	Fri 9/13/13
28	**TASK 3 - System Transfer, Modification, and Technical Testing**	**66 days**	**Mon 10/14/13**	**Mon 1/13/14**
29	Subtask 3.1. System Transfer Initiation	1 day	Mon 10/14/13	Mon 10/14/13
30	Subtask 3.2. System Transfer, Modification, and Technical Testing	60 days	Tue 10/15/13	Mon 1/6/14
31	Subtask 3.3. Operational Planning, Documentation, and Training Materials	5 days	Tue 1/7/14	Mon 1/13/14
32	**TASK 4 - User Acceptance Test (UAT)**	**65 days**	**Mon 1/20/14**	**Fri 4/18/14**
33	Subtask 4.1. System Installation	2 days	Mon 1/20/14	Tue 1/21/14
34	Subtask 4.2. System Operations Support and Training	60 days	Mon 1/27/14	Fri 4/18/14
35	Subtask 4.3. Support UAT and System Revision	60 days	Mon 1/27/14	Fri 4/18/14
36	**TASK 5 - Pilot Test**	**79 days**	**Mon 4/21/14**	**Thu 8/7/14**
37	Subtask 5.1. System Pilot Initiation Meeting	1 day	Mon 4/21/14	Mon 4/21/14
38	Subtask 5.2. Help Desk Training	1 day	Tue 4/22/14	Tue 4/22/14
39	Subtask 5.3. Pilot Agency (State Office and Clinic) Training	5 days	Wed 4/23/14	Tue 4/29/14
40	Subtask 5.4. Data Conversion	2 days	Wed 4/30/14	Thu 5/1/14
41	Subtask 5.5. System Pilot Test	60 days	Fri 5/2/14	Thu 7/24/14
42	Subtask 5.6. Evaluate Pilot, Modify and Retest System	10 days	Fri 7/25/14	Thu 8/7/14
43	**TASK 6 - Rollout**	**63 days**	**Mon 8/11/14**	**Wed 11/5/14**
44	Subtask 6.1. System Rollout Initiation Meeting	1 day	Mon 8/11/14	Mon 8/11/14
45	Subtask 6.2. User Training, Conversion, and Implementation	50 days	Tue 8/12/14	Mon 10/20/14
46	Subtask 6.3. Post Implementation Problem Resolution and Checkpoint	10 days	Tue 10/21/14	Mon 11/3/14
47	Subtask 6.4. System Documentation Update	2 days	Tue 11/4/14	Wed 11/5/14
48	**TASK 7 - Initial Warranty Period**	**262 days**	**Thu 11/6/14**	**Fri 11/6/15**
49	Subtask 7.1. System Operation and Maintenance	262 days	Thu 11/6/14	Fri 11/6/15
50	Subtask 7.2. Nebraska State's Operation and Maintenance Staff Training and Mentoring	262 days	Thu 11/6/14	Fri 11/6/15
51	Subtask 7.3. One-Year Warranty Period	262 days	Thu 11/6/14	Fri 11/6/15
52	Subtask 7.4. System Problem Reporting	262 days	Thu 11/6/14	Fri 11/6/15
53	Subtask 7.5. System Modification	262 days	Thu 11/6/14	Fri 11/6/15
54	**TASK 8 - Project Closure and Transition**	**1 day**	**Mon 11/9/15**	**Mon 11/9/15**



ID	Task Name	Duration	Start	Finish
55	Subtask 8.1. Final System Documentation, Forms, Source Code, Data, and Other Materials	1 day	Mon 11/9/15	Mon 11/9/15
56	Subtask 8.2. Contract Closure	1 day	Mon 11/9/15	Mon 11/9/15
57	**TASK 9 - Extended Warranty and Operation Period Options**	**1 day**	**Mon 11/9/15**	**Mon 11/9/15**
58	Subtask 9.1. Extended Warranty Period	1 day	Mon 11/9/15	Mon 11/9/15
59	Subtask 9.2. System Modification	1 day	Mon 11/9/15	Mon 11/9/15
60	Subtask 9.3. System Operations	1 day	Mon 11/9/15	Mon 11/9/15



X. Proposed Budget

X.1. *Overview*

The Nebraska General System Design calls for the transfer/modification of the MPSC system. The MPSC system has been developed on a web-based Smart Client system architecture. The system is developed in Microsoft .NET.

For budgeting purposes, the MPSC core system architecture is used to estimate costs related to equipment, telecommunications, personnel, and quality assurance contracts. As the MPSC system has not been transferred to date, the transfer/modification costs have been based on projects of similar scope that were transfer/modifications of the SPIRIT SAM system, which is also a .NET, Smart Client system.

X.2. *Budget Summary*

The total amount requested for the Nebraska WIC system transfer/modification project is $4,296,908 over one and three quarter federal fiscal years (7 Quarters) from initiation of procurement to completion of rollout. In addition, there is a twelve-month warranty period following the completion of the system implementation.

X.3. *Nebraska System Configuration and Costing*

This section details all the costs related to the primary elements required for the development of the WIC system project and its subsequent implementation. For budgeting purposes, the following assumptions are made:

1. The State Agency office and clinics will require 185 new PCs, 82 new laptops, 73 new MICR printers (the system will print checks on MICR printers, Nebraska currently uses dot matrix printers) and 68 new report printers.
2. The State Agency office and clinics will require 67 scanners and 222 signature pads, the number of peripherals required is estimated based on the relative size of the clinics and their caseload and staffing.
3. Each clinic will require an upgrade to a DSL, Cable Modem or T1 line internet connection where available. Some Nebraska clinics already have these types of connections. For some remote satellite clinic sites, where DSL, Cable Modem or T1 lines are not available, Nebraska intends to use wireless internet air cards.
4. Nebraska will operate a central processor (or contract for host services) which will require a total of ten (10) new servers: 3 Web/Application servers, 1 Warehouse/Report server, 2 SAN servers, 2 SAN Infrastructure servers, and 2 Backup/Disaster servers, each with a UPS and a Windows Server OS package that includes 5 licenses.

X.4. *Nebraska Equipment Requirements*

X.4.1. Local Agency/Clinic Equipment Costs

Local agencies and their associated clinics will require hardware upgrades including personal computers, scanners, signature pads, and MICR printers. Clinics will use MICR printers for food instruments and laser printers for all other purposes. However, some small or portable sites may use one MICR printer with two paper trays for all printing. The preliminary estimate of Central Processor hardware and software costs needed to support a Web-based environment is $382,500. The preliminary estimate of Personal Computers and Peripherals hardware costs is $545,932.

Figure 22 summarizes the equipment needs and costs for the new system at clinic permanent and satellite sites.

Figure 22: Summary of Total Local Agency/Clinic Equipment Needs and Costs

Item	Brand & Model	Total Units	Unit Price	Total Cost	Warranty Information
Desktop + Monitor	Dell Optiplex 390	185	$1,085.00	$200,725.00	5-yr On-site
14" Laptop	Dell Latitude E6420	82	$1,376.00	$112,832.00	5-yr On-site
Compact Desktop Scanner	Canon imageFORMULA DR-2010C	65	$443.00	$28,795.00	1-yr Exchange
Networked Desktop Scanner	Kodak Scan Station 500	2	$2,100.00	$4,200.00	90 Day Hardware Warranty
Signature Pad	Topaz SignatureGem LCD4x3 (T-LBK755SE-BHSB-R)	222	$400.00	$88,800.00	3-yr Exchange
MICR Printer - Stationary	Source Technologies (Lexmark) MICR ST9620	44	$1,270.00	$55,880.00	
3-yr Exchange Warranty	For MICR ST9620	66	$230.00	$15,180.00	3-yr Exchange Warranty
3-yr Next-Day On-site Warranty	For MICR ST9620	7	$412.00	$2,884.00	3-yr Next-Day On-site Warranty
MICR Printer - Travel	Source Technologies (Lexmark) MICR ST9612	29	$649.00	$18,821.00	
CERT Printer - Stationary	HP LaserJet P2035n	39	$286.50	$11,173.50	1-yr Exchange
CERT Printer - Travel	HP OfficeJet 100	29	$229.00	$6,641.00	1-yr Exchange
TOTAL				**$545,931.50**	

X.4.2. State Data Center Equipment Costs

State servers and SQL licenses as described above will need to be purchased to support the Web-based environment for the new system. Figure 23 summarizes the equipment needs and cost for the State data center.

Figure 23: Summary of State Data Center Equipment Needs and Costs

Item				*Enterprise version*			*Enterprise version*			
	DELL Server Model	Number of Servers	Number of Processors	Per MS/SQL Cost	MS/SQL License Cost	Total Server Cost	Windows Server 2008	Data Center Edition OS	Backup Exec Recovery	Grand Total
Database Backup/Disaster Recovery	R710	1	2	$18,000	$36,000	$10,000	$6,000	$6,000	$600	$58,600
Database Backup/Disaster Recovery	R710	1	2	$18,000	$36,000	$10,000	$6,000	$6,000	$600	$58,600
Web server (IIS)/Application	R310	1	1			$4,000	$3,000	$3,000	$600	$10,600
Web server (IIS)/Application	R310	1	1			$4,000	$3,000	$3,000	$600	$10,600
Web server (IIS)/Application add'l	R310	1	1			$4,000	$3,000	$3,000		$10,000
Warehouse/Report Server (SQL)	R710	1	1	$18,000	$18,000	$9,500	$3,000	$3,000	$600	$34,100
SAN (Storage Area Network)		2				$75,000				$150,000
SAN Infrastructure		2				$25,000				$50,000
[redundant switches, network cards, etc.]										
[capable of real-time data synchronization]										
Grand Total										**$382,500**

X.4.3. Software & Licenses

The system design requires that all local and satellite clinics use computers that run the same operating system (currently Windows 7) and all system licensing is included in the purchase of the computer. No other software is required for the system design other than an internet browser. The central processor locations will require a Microsoft Server OS. Microsoft currently offers a Windows Server OS that includes five (5) licenses that would be used to operate the four server configuration. See Figure 23 for pricing. D&IC bidders are expected to include the cost of any additional software licenses in their bid price.

X.4.4. Telecommunication Requirements

Although some Nebraska clinic sites have existing telecommunication systems that would be adequate for the system design, Nebraska is aware that many clinics will require a telecommunications upgrade. Based on a survey of Nebraska clinics, Figure 24 provides a summary of expected costs for telecommunications upgrade/installation. Annual telecommunications costs were also considered but are not considered part of the Project budget.

Figure 24: Summary of Telecommunication Costs

	Total Units	Unit Cost	Total
Mobile Hot Spot Modem Cost	20	$300.00	$6,000.00
Wireless Air Card Cost	1	$100.00	$100.00
Cable Installation	2	$500.00	$1,000.00
DSL Installation	58	$200.00	$11,600.00
Wireless Modem/Router	79	$300.00	$23,700.00
TOTAL			**$42,400.00**

X.4.5. Annualized Printing Costs

Due to the high volume of printing required at the Nebraska clinic sites, printing expense has been considered. These costs are not considered part of the Project budget.

X.5. *Personnel Requirements*

Nebraska has obtained the services of a Project Management consultant during the planning phase of the Project. The Project Management consultant will continue to guide the Project and support management needs throughout the course of the effort through completion of implementation. However, as Nebraska is a small WIC state and has correspondingly low staff capacity, the State has determined that additional Project staff support will be necessary from Project initiation through completion of system implementation. Based on previous WIC system transfer and design projects in other

states, Nebraska has estimated the needs for project personnel to implement a new Nebraska system as follows:

3. DHHS Project Coordinator - One (1) full time (1 FTE)
4. Project Administrative Assistants - Two (2) full time (2 FTE)

The project coordinator position should begin concurrent with the D&IC contract's procurement phase in order to become knowledgeable about the WIC program and system implementation. The project coordinator should remain up to the completion of project rollout, estimated at 1.75 years from project initiation. At present, Nebraska has received approval to proceed with EBT planning. Should Nebraska receive approval to proceed with EBT development, the Project Coordinator will also serve that effort in the same capacity. Figure 25 provides a summary of Project personnel costs.

Figure 25: Project Personnel for System Implementation

Cost Description	Hourly	Weekly Costs	Monthly Costs	Total Cost*
Project Management Contractor	N/A	N/A	N/A	$294,399
DHHS Project Coordinator	$68	$2,720	$11,787	$282,888
Project Administrative Assistants	$57	$4,560	$19,760	$474,240
TOTAL Project Coordination/Support				$1,051,527

X.6. *Software Development & Implementation*

Nebraska will work with a D&IC to transfer and modify the MPSC WIC system for use by the State. Since the entire D&IC cost will be financed by USDA WIC grant funds and since the system will be operated for the benefit of the WIC Program, a cost allocation plan is not anticipated to be necessary.

X.6.1. D&IC Contract

The D&IC scope of work will include project planning; detailed design (of modifications) inclusive of JAD sessions with State and local agency staff; technical testing; User Acceptance Testing support; Pilot training and support; help desk training and support; and, rollout training and support. In addition, the D&IC will be requested to provide up to 5 years of warranty and provide bids for hybrid or outsourced operations and maintenance for the same period. It is anticipated that any future enhancements desired by Nebraska or required by regulatory revision, should these be requested of the D&IC rather than in-house efforts, would be procured on a task order pricing basis.

Nebraska recognizes that there are a very small number of software development firms that support the WIC national market. Because WIC is such a niche market, there have rarely been more than three or four private firms in the business at any one time.

Moreover, past experience has shown that often the only qualified bidder to transfer and modify a given existing WIC system is the original developer of the system. Historically, the experienced WIC contractors have shied away from bidding to conduct a transfer and modification of a competitor's system. As a result, the bids received are generally from the original system developer, and occasionally, a handful of bids from local tech firms that lack needed capacity, experience, and understanding of the complex WIC requirements. This has been the case in a series of transfer and modifications of the SPIRIT SAM system. The original SPIRIT developer has been the only experienced WIC system contractor to bid on the transfers of this system. Occasionally, another firm and/or small local companies have offered to provide transfer services. However, in all cases they have been deemed unqualified to provide the needed services due to a variety of factors including lack of capacity, lack of expertise, and lack of understanding of the WIC Program and its requirements.

As the MPSC system has yet to be transferred, it is not known what costs may be proposed for the transfer/modification of the MPSC system. In addition, Nebraska understands that WIC software development costs are influenced by factors both obvious and subtle. Some of the obvious factors include competition in the marketplace, the extent of design changes to the system to be transferred, the degree of on-site presence required during development, and the costs of travel from the contractor's home base to the state project site. The scope of the D&IC's responsibility, such as whether they are required to provide software licenses, purchase and install hardware, or provide end user training is also a major factor. In estimating the costs for the transfer/modification of the MPSC system, Nebraska examined the costs of several recent transfer/modifications of WIC systems that entailed tasks and activities that resemble the scope of the Nebraska effort. Project costs examined included several recent transfer/modifications of the SPIRIT SAM system, which is comparable in design and architecture to the MPSC system.

Nebraska intends to minimize D&IC costs to the extent possible by procuring and installing hardware themselves. All local agency and clinic hardware will be procured by the State. In addition, Nebraska intends to procure the central processor hardware as well. However, should the option to contract for outsourced operations and maintenance be exercised, Nebraska may reach agreement with the contractor for them to procure the necessary central processor hardware and pass the cost on to the State should this prove to be the most advantageous approach. The amount of travel to individual agencies will be minimized to the extent possible, but it may not be possible to avoid it altogether. Moreover, the D&IC will include in their bid user training costs for contractor staff to hold an initial weeklong "Train the Trainer" event for selected Nebraska State and local agency staff. This will allow the staff participating to assist the D&IC in the conduct of Pilot and Rollout training, reducing the D&IC staffing needs. These costs will be factored in to the winning bid.

Other factors may also influence the cost. One often overlooked item is the bidders' perception of risk in the project. The key risk in the Nebraska Project is the modification of the system desired by the State. Risk is associated with uncertainty, for the modifications, lack of clarity or specificity in the functional specifications could escalate

this risk. Understanding this factor, Nebraska has endeavored to identify carefully the exact modifications desired in the Functional Requirements Document of this IAPD. In addition, a prioritized listing of the desired enhancements has been provided in this document as Attachment A: Prioritized List of Desired System Enhancements. Other mitigating factors can include the extent of the contractor's desire for additional business, including additional states electing to transfer the MPSC system. The D&IC may be willing to offer a somewhat lower price for initial transfers of the system to encourage other states to select the system for transfer. Another factor that can affect the bidders cost is the prospect of an ongoing business relationship with the state. The successful D&IC bidder may bid a lower price in a state that also intends to retain the company to operate the system for several years. Nebraska intends to include this as an optional task in the Request for Proposals.

The estimated D&IC cost for the Nebraska effort is $1,879,000. The cost estimates for the D&IC reflected in this IAPD were derived using the best and final offers from selected SPIRIT transfers and the South Dakota/Michigan transfer competitive procurements. The SPIRIT transfer costs utilized were for the Arkansas and Missouri transfers. These recent projects were deemed closest to the Nebraska effort in terms of the extent of modifications and ancillary costs, such as training. Figure 26 provides a summary of the costs of the projects reviewed and the estimated Nebraska cost.

Figure 26: Costs of Comparable Transfer/Modification Projects

Development and Implementation Contractor (D&IC) Contract Cost	
Cost Source	**Best and Final Offer**
Arkansas SPIRIT Transfer	$1,022,856.00
Missouri SPIRIT Transfer	$1,322,490.00
South Dakota Michigan Transfer	$1,259,000.00
Average	$1,201,448.60
Estimated D&IC Cost for Nebraska*	**$1,400,000.00***
Estimated Cost of Nebraska Modifications	**$479,000.00**
Estimated Total D&IC Cost for Nebraska	**$1,879,000.00**

* Includes inflation. Does not include modifications.

X.6.2. Quality Assurance Contract

Nebraska understands that the complexity and level of effort required for transferring and modifying the MPSC system makes it prudent to obtain the services of a quality assurance (QA) contractor. This QA contractor will independently review D&IC products, guide the UAT process, and perform other services within the scope of the QA

contract. Nebraska estimates the QA services will cost approximately fifteen percent of the D&IC contract cost, $281,850.

X.6.3. Software Development and Quality Assurance Costs

Figure 27 illustrates the assumed combined cost of the D&IC and the quality assurance contractor for the project.

Figure 27: Summary of DDI and QA Contracts

Cost Source	Amount
Software Development Contractor	$1,879,000
QA Contractor	$281,850
Total Software Development and Other Cost Elements	**$2,160,850**

X.7. *User Training*

It is Nebraska's intention to begin early in the Project to develop a team of local agency and State Agency 'super users' who will be utilized to assist the D&IC in the conduct of the training and will provide support to the local agencies as they go live with the new MIS. These super users will be drawn from the State and local agency staff who have already participated in the design sessions leading to the development of the Nebraska FreD. To initiate the development of the super user group, Nebraska will ask the D&IC to conduct a System Orientation Training for the group prior to initiation of detailed design sessions. This training will mimic the training to be provided to users for future activities including UAT, Pilot and Rollout. The super users will then be able to approach the detailed design of the system with an understanding of the transfer system functionality and operation.

In addition, the D&IC will provide an initial weeklong "Train the Trainer" event to be attended by selected Nebraska State and local agency staff. The attendees of this event will then assist the D&IC in the conduct of the Pilot and Rollout training events. It is anticipated that groups of local agencies will be trained at each event in regional training event locations. Travel to and from the events is assumed to be via automobile and mileage is an estimation based on staff size and proximity to potential training event locations. For budget purposes, each event consists of five days with an eight hour training day. See Figure 28 for estimated user training costs.

Figure 28: User Training Costs

Training Type	# Attendees	Miles	Mileage Cost	Meal Cost	Hotel Cost	Total

Super User Training						
	29	3700	$ 2,054	$ 6,670	$ 9,625	$ 18,349
Pilot Training						
	49	3700	$ 2,141	$ 11,270	$ 12,320	$ 25,731
Roll-out Training (8 regional events)						
	190	3020	$ 2,469	$ 35,195	$ 31,955	$ 69,619
Totals	**268**	**10420**	**$ 6,664**	**$ 53,135**	**$ 53,900**	**$ 113,699**

X.8. *Project Cost Summary*

See Figures 29 and 30 below for a summary of the major cost elements of the Nebraska system transfer and modification project.

Figure 29: Project Cost Summary

Cost Description	Cost
D&IC Contractor	$1,879,000
Central Processor Hardware/Software	$382,500
Personal Computers and Peripherals	$545,932
Telecommunications Installations	$42,400
Project Coordination & Additional Project Support	$1,051,527
Quality Assurance Contractor	$281,850
User Training	$113,699
TOTAL	**$4,296,908**

A Quarterly Project Cost Outlay is provided in the table on the following page.

Figure 30: Quarterly Project Cost Outlay

Quarterly Project Cost Outlay

	FFY 2013			FFY 2014				FFY 2015				
	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	**Totals**
Funding												
Total Funding Requested	32711	145701	747483	388314	678134	1141583	472583	462583	172583	45231	10000	$4,296,908.00
Total Funding Sources	32711	145701	747483	388314	678134	1141583	472583	462583	172583	45231	10000	$4,296,908.00
Budget Activities												
State Personnel Costs												
SA Personnel (NSA Funds)*		6876	15952	12028	16350	16350	16350	7448				$ 72,450.00
Project Coordinator		35361	35361	35361	35361	35361	35361	35361	35361			$ 282,888.00
Project Administrative Assistants		59280	59280	59280	59280	59280	59280	59280	59280			$ 474,240.00
State Personnel Costs Total												**$ 757,128.00**
Contractor Costs												
D&IC Contractor			60000	100000	100000	979000	310000	300000	10000	10000	10000	$1,879,000.00
Project Management Contractor	32711	32711	32711	32711	32711	32711	32711	32711	32711			$ 294,399.00
QA Contractor			35231.25	35231.25	35231.25	35231.25	35231.25	35231.25	35231.25	35231.25		$ 281,850.00
Contractor Costs Total												**$2,455,249.00**
Equipment Costs												
Local Agency Equipment			100000	100000	345932							$ 545,932.00
State Data Center Equipment			382500									$ 382,500.00

Equipment Costs Total												**$ 928,432.00**
Telecommunications Installations Costs			42400									$ 42,400.00
Telecommunications Installations Costs Total												**$ 42,400.00**
Training Costs												
Super User Training		18349										$ 18,349.00
Pilot Training				25731								$ 25,731.00
Rollout Training					69619							$ 69,619.00
Training Costs Total												**$ 113,699.00**
Total Payments												**$4,296,908.00**

* NSA funds, not included in Project funding request.

XI. Cost Allocation Plan

The Nebraska WIC system will be a WIC-dedicated system. Therefore, all development, implementation, operation, and maintenance costs will be paid from federal WIC funds. In addition to acquiring and modifying the selected transfer system, Nebraska will have implementation costs in the form of new clinic and state office hardware purchases. Nebraska is requesting federal assistance with these costs through this IAPD.

For additional information regarding costs, please refer to Section X, the Proposed Budget.

XII. Security Plan

This chapter of the IAPD presents the security plan for the new Nebraska WIC MIS. The new Nebraska WIC MIS will be based on the web. The implementation of an automated clinic service delivery system for WIC that handles sensitive and confidential information and communicates across a public network - the Internet - requires a comprehensive and thorough security plan. The protection of the confidential information that will be transmitted from and to Nebraska sites and the central processing site is both appropriate and mandated by regulation and statute, both state and federal. Likewise, the implementation of a system that manages multi-million dollar funds distribution and tracking, as well communications with financial processors, requires an equally comprehensive and thorough security plan.

The telecommunications network must have an infrastructure and procedural plan in place to accommodate and handle the responsibilities imposed by these security measures. Further, the protection of stored data must be addressed. Finally, the state's significant investment in hardware required to host and access the system must be protected by comprehensive plans and service level agreements with local agencies addressing the physical plant security of each installation.

This security plan provides the initial preventive measures planned for the protection of the proposed new WIC MIS that conform to USDA/FNS requirements and the requirements of the State. State of Nebraska security requirements can be found at http://nitc.nebraska.gov/standards/security/8-101.pdf. The security plan will serve as the basis for the development of detailed security specifications and requirements to be evaluated and developed by the D&IC contractor as a planning product of their engagement.

XII.1. *Overview*

IT security encompasses the protection of the confidentiality, integrity and availability of the system, including hardware, software, and data, from threats of human origin, whether malicious or accidental. A system security plan must define methods and controls for safeguarding data, hardware and software and preventing human attacks to the system, rather than recovery from them after the fact. If damage to the system (such as destruction of system data) should occur as the result of a security breach, recovery would be accomplished using techniques covered in the disaster recovery plan. The scope of this plan, the Security Plan, concentrates on methods and protocols for the prevention of attack on the system and its supportive infrastructure, rather than disaster recovery.

Threats of human origin can include sabotage of hardware, software, and/or data; unauthorized access to confidential data; and theft. Theft includes stealing system components, such as hardware or blank food instrument (FI) stock, as well as monetary theft accomplished through using the system to generate fraudulent financial instruments such as FIs.

As the new Nebraska WIC MIS will be a web-based solution there are additional, inherent security risks that come with this technology that must be addressed. Since the Internet is a publicly accessible network, there needs to be additional security to protect the Nebraska WIC MIS against outside intrusions and attacks via the Internet. Each of these areas is discussed within the seven remaining sections of this plan, as follows.

- Physical Security of System Resources
- User Authorization
- Protection Against Computer Viruses
- Vulnerabilities of a Web-Based System
- Personnel Security and Security Administration
- Security Training
- HIPAA

This Security Plan addresses methods to prevent threats to hardware, software, and data from being successfully carried out against the new WIC MIS. The final system security plan will be defined by the D&IC contractor and address the items herein.

XII.2. *Physical Security of System Resources*

Physical security refers to such preventative measures as locks and keys that provide a first line of defense against theft, intrusion, tampering, and careless misuse. While most of the system's data resides on the central processor, other components of the system hardware (i.e., clinic site hardware) may retain components of client data utilized for client communications outside the system using office automation software. Therefore, theft of system hardware could also include theft of system data. Given this understanding, security procedures must be in place to protect hardware against theft, which will also include the protection of the data that resides on that hardware. Preventative measures and methods for physically securing the system equipment and other supplies, particularly FI stock, will be described below. The data must be protected and secured through passwords and encryption, also discussed below.

XII.2.1. Equipment Security

To ensure the security of the Nebraska WIC MIS hardware as it pertains to physical security, the following procedures will be followed:

- System hardware will be located in rooms that can be locked during non-working hours, as is the current practice. The process for managing access keys and/or cards has been set up in a controlled fashion such that keys and cards are issued only to individuals who, as part of their job, must have possession of those keys, cards, or both for access (i.e., clinic staff, system administrators, database administrators, and security personnel).

- Portable equipment such as laptop computers and printers are kept in a secured place when not in use.

- Critical software will be located in a secure place, preferably in a fireproof locker that can be locked at all times. Access controls, such as a sign-in and sign-out process, will be in place for this software.

- All servers will be located in a secure place in an area that can be kept secured at all times.

- Anti-theft devices, such as non-removable identification tags and equipment bolts, will be used to protect equipment from theft or unauthorized use. In addition, metallic void tags may be placed on computer equipment cases to assure that hardware Service Level Agreements (SLAs) will not be invalidated by case removal of warranted equipment by unauthorized personnel. The term unauthorized personnel is anyone who is not factory trained and certified to fix a particular computer system which is still under warranty by the manufacturer.

- The State Agency will be responsible for maintaining a current, written inventory of all WIC computers and related equipment; this inventory will be maintained and verified annually.

XII.2.2. Food Instrument Security

On demand printing of food instruments for all participants is a key component of a WIC clinic system. Theft of food instrument (FI) stock exposes the WIC program to the threat of fraudulent use by individuals to purchase WIC foods at the program's expense or by a vendor to receive WIC funds for goods that were never sold. With the possibility of the potential threat, security measures and procedures must be in place to protect a WIC clinic's FI stock. Likewise, Electronic Benefits Transfer (EBT) cards which will replace food instruments when the "EBT ready" system becomes "EBT functional", exposes agencies to an equivalent threat and requires comparable measures.

The following security measures will be taken to protect FI stock or EBT cards:

- All FI stock/EBT cards will be kept in a secured place except for that which is loaded into the FI printers at the service delivery sites or is currently being issued to participants.

- Unused FI stock will be removed from the printers and secured at the end of each working day. Unissued EBT cards will be secured at the end of each workday.

- The WIC MIS will contain a module that will enable the state and its local agencies to record and monitor either FI or EBT card stock inventories and assign stock to the service delivery sites. Since MICR printers will be used to print FI serial numbers on the FIs when they are issued, a control number may be printed on the back of the stock to be used for inventory purposes.

- An audit trail of food instrument/EBT card stock will be maintained at all locations; the records will be based on stock issued and FIs printed, voided, or destroyed. These records will be periodically compared to physical stocks according to the policies and procedures of Nebraska state government.

- Provisions will be made for secure and traceable transport of food instrument/EBT card stock from the state agency to the local sites, if applicable.

- Access to FI/EBT card secure areas will only be in possession of a few key WIC clinic personnel.

XII.3. *User Authorization*

The Nebraska WIC MIS will determine a user's authorized role(s) and permissions for specific areas based on the user's login ID. In modern WIC systems, this is defined by assigning group roles and responsibilities, both internal and external, which facilitate and manage limits on assigned levels of user access for the new WIC MIS. Group wide assigned roles make it easier to initiate various audits and monitor access within the WIC MIS.

XII.3.1. Identification and Authentication

Physical mechanisms provide primary levels of security that control access to the equipment. The second and equally important level of system security is controlling access to the system.

Control of system access resolves the following questions:

1. Who is allowed to access the system?
2. Is the person logging in a legitimate user?
3. How is a user's legitimacy determined?
4. What are the system functions a given user may perform?
5. How does the system keep track of who is performing what actions in the system?

Questions one through three are answered in a two-step process called identification and authentication. The fourth question is answered by the assignment of roles to each user ID. The last question is answered by the use of audit logs. Each of these processes is discussed in the following sections.

XII.3.1.1. *System Access*

To access the WIC MIS, the user will be prompted to enter a user ID and password. It is anticipated that authentication of internal users will be managed outside of the system using state-specific external authentication services/modules. External users will be authenticated within the WIC MIS. Following IT security standards, the password will not be echoed or displayed on the screen; it will be masked during entry by the user. The system will then authenticate the user's identity by verifying that the entered password

for that account is valid. The user will be allowed to access the system only if the hash value of the entered password matches the one stored by the system.

A user will be given a configurable number of attempts to enter the correct user ID/password combination. After the maximum number of attempts allowed, the system will deny access until the user ID can be unlocked by the system administrator or after a given amount of time predetermined by the state. This procedure prevents unauthorized users from gaining system access and protects against the use of automated password cracking software.

The system shall also inactivate an account when a user's login has not been used for a specific period of time as defined the state. A system administrator will be able to reactivate this account as needed.

User ID and password protection will be applied at both the operating system level and the application level. After a specified amount of time of inactivity defined by the state, the application will log the user off the application. In addition, a screen saver will be implemented that will require a password that is authenticated at the operating system level to exit once it is triggered. This will prevent unauthorized access by someone taking advantage of the absence of a legitimate system user who has already logged on to the system.

XII.3.1.1.1. User Identification—User ID

Users will identify themselves to the WIC MIS by entering a unique login identifier. Identifiers are typically a name, initials, number, or a combination of all three or an account assigned by the system administrator of the network. Many software systems, operating systems, relational database management systems (RDBMS), and user applications over a distributed network, expect unique identifiers to have a specific format. Specific conventions for user IDs such as types, format and style will be determined during the system requirements confirmation phase.

XII.3.1.1.2. User Authentication—Password

Users authenticate themselves by entering the password. Initial passwords will be provided by the system, and users will be required to change their passwords the first time they log on to the system. Additionally, the system will have the ability to allow users to change their passwords on demand according to system specifications such as password length requirements, etc. The system administrator will also have the ability to reset a password in the event the password is compromised or forgotten. Finally, regular password changes, as defined by the state, will be required by the system. A user shall be prevented from selecting a password used within the past twelve months or another period of time as defined according to state-defined parameters. One or a few individuals at the state central site and at each local site will handle system administration.

The system will store only an encrypted version of user passwords on system files or database tables. When a user at the system login screen enters a password, the hash function will be applied to it, and the result compared to the stored value for that user ID. Thus, someone who is not an authorized user who gains access to the system password

file will be unable to use the information to log on to the system. For added security, neither screen displays nor printouts of password files will be allowed. This puts users in control of their access to the system via their passwords.

XII.3.1.2. *WIC MIS User Roles*

The system to be transferred has already been populated with various sets of user groups, roles and responsibilities that conform to the staffing models of the states currently using the system. As part of the requirements confirmation phase of the project, the system roles and access levels required for Nebraska State and local WIC personnel will be defined. Examples of these system roles include but are not limited to "System Administrator", "Nutritionist", "Clinic Director" and "Clerk". Each role will be assigned specific rights and access levels to the WIC MIS. For example, "Clerk" might only have access to appointment scheduling or food instrument printing. Only the system administrator will have the authority to assign the rights and access level(s).

XII.3.1.3. *Audit Logs*

An audit log records all system activity (e.g., logins and logouts, file accesses, unsuccessful login attempts, security violations or password changes) and provides a chronological set of those records. These records can be used to reconstruct, review, and examine all system transactions from initiation to output of final results and can be used to track system usage and detect and identify intruders. All major commercial RDBMS provide auditing capabilities and the system to be transferred includes this feature. Functions performed by the audit log include the following:

- Monitor active users;
- Monitor attempts by authorized users to gain access to specific system functions for which they have not been authorized;
- Record the user IDs of all unauthorized attempts to log on to the system;
- Produce a screen display, hardcopy or file, upon request, listing user IDs, time, and location (e.g., workstation) of all unauthorized or out of operational hours access attempts; and,
- Provide an automated process to archive audit log files.

XII.3.1.4. *Vendor Backdoors*

As with all backdoors, vendor backdoors should be identified and eliminated. A backdoor to a system allows uncontrolled access to a network and system. The preventative measures that should be taken include, but are not limited to, changing all system default passwords and login IDs and having no hard coded passwords within the system. Also all test and guest passwords (e.g., root, system, test and demo) must be changed, or if not needed, made inactive. It is imperative that no user ID and password (other than the system administrator role[s]) be given root access to the system.

XII.4. *Protection Against Computer Viruses*

Because of the significant risk of infection by a computer virus incurred by connection to the Internet, virus detection software from a reputable anti-virus software publisher will be installed on all computers used for the new WIC MIS. The number one cause of virus attacks to a network system takes place through a system's email. Therefore, policies and procedures will be in place to handle this type of attack, such as mandating that each email must be scanned before receiving or sending. While email is not part of the WIC MIS, each state staff or LA utilizing email on the system will have to assure the protection is in place. This involves placing an antivirus program specifically geared towards email and email servers. The virus definitions will be updated at least weekly to provide ongoing protection against newly discovered viruses. This typically can be done via download from the anti-virus program manufacturer's website.

XII.5. *Vulnerabilities of a Web-Based System*

Security vulnerabilities of web-based systems include all of the aforementioned, as well as those related to utilization of a public network, web services, or both. While firewalls are utilized, there are additional security risks that are not mitigated by firewalls. A firewall is a device and/or program that stands between the Internet and a private computer or network and restricts traffic between the Internet and the computer or network. It can do this based on the domain name, IP addresses (sender and receiver) of the incoming or outgoing message, login IDs and passwords, and/or any other information contained in the IP packet. It reads each incoming and outgoing IP packet and decides, based on the programmed criteria, whether or not to pass it on. While largely a state responsibility (as they manage the network) the D&IC contractor will be required to work with Nebraska's network security managers to ensure a high level of protection for the application.

XII.5.1. Web Services Risks

An additional security concern associated with a web-based system is whether web services are employed, e.g., if the system is a smart client system. These concerns include buffer overflows, XML (Extensible Markup Language) injections, and session hijacking. Nebraska will utilize secure HTTP connections (i.e., HTTPS) and require the D&IC contractor to ensure the application has measures to guard against the following risks attributable to the use of web services.

XII.5.1.1. *Buffer Overflows*

Buffer Overflows is one of the major causes of Denial of Service (DOS) attacks. A hacker can craft a XML data island to call upon itself a number of times that causes the XML data island to increase in size. This causes memory overflow, or triggers error messages that can reveal information about the system that can be used by the hacker to find security holes within the web-based system.

Another type of attack associated with Buffer Overflow consists of sending a block of data to the web-based application, which is stored in a buffer of insufficient size. This

block of data can then overwrite genuine data and cause a function return that gives control to the malicious code in the hacker's data block.

XII.5.1.2. *SQL/XML Injections*

SQL Injection is a high-risk exploit that may be performed using Simple Object Access Protocol (SOAP) messages. If a server does not validate data correctly, a SOAP message can be used to create XML data that inserts a parameter into an SQL query and has the server execute it with the rights of the web service. SQL Injection is only one of the threats a server is exposed to if data is not validated.

Another such example is Schema Poisoning. A schema file is what an XML parser uses to understand the XML's grammar and structure and contains essential preprocessor instructions. An attacker may damage the XML schema or replace it with a modified one that would then allow the parser to process malicious SOAP messages and specially crafted XML files to inject OS commands on the server or database.

XII.5.1.3. *Session Hijacking*

Session Hijacking defines the activity of a system or hacker that gains illegal control of a legal user's session state. This is usually accomplished by the hacker stealing a valid session ID (valid session cookie) and using the stolen session ID to gain that particular user's privileges in a web-based application or even a network.

XII.5.2. Network Intrusion Detection System

Mechanisms such as packet filters and port and packet monitors can help detect intrusion that can come through any open port in a TCP/IP network. A packet filter can help facilitate security policies and rules at the TCP level. It allows for blocking and re-routing traffic based on IP address. Packet filters also help facilitate 'spam' control and other unwanted network traffic. Packet filters and monitors (intrusion detectors) are able to run from the firewall, behind it or both.

Port and packet monitors are key components of a network intrusion detection system (NIDS). There are two main types of detection used by a NIDS. The first is a signature-based intrusion system. The signature-based intrusion system will detect intrusions by the monitoring of network traffic for specific byte patterns indicative of a known exploit or attack. The second type is the statistical based intrusion system. This type of monitoring system maintains a statistical history of packets that is gleaned for a particular network's traffic. When a packet falls outside the statistical boundaries of a normal traffic pattern, alerts and report mechanisms go off and alert to a possible attack to the network. This type of reporting is known as an "anomaly-based" report.

An intrusion prevention system (IPS) can add another security layer within a system's network infrastructure. The IPS enables the control of access into a network by creating profiles or policies based on application content rather than just TCP/IP or port addresses. This provides a more refined secured network at the central processor. The best intrusion prevention systems are those systems that work interactively with a network intrusion detection system.

While largely a state responsibility (as they manage the network) the D&IC contractor will be required to work with Nebraska's network security managers to review these approaches and select appropriate measures to ensure a high level of protection for the application.

XII.6. *Security and Vulnerability Testing*

Nebraska will require the D&IC contractor to conduct security and vulnerability testing in the testing and production environment with resultant system hardening to protect the integrity of the WIC MIS application and data. This testing will be included in the D&IC contractor's Security Plan.

XII.7. *Personnel Security and Security Administration*

The security measures built into the system are only as good as the security procedures and policies followed by the people administering and using that system. This is particularly true of the security provided by system passwords. Thus, system security measures must be complemented by security oriented policies, procedures, and training for the new WIC MIS to be truly secure. Nebraska WIC will evaluate and update the security provisions of their Policy and Procedures as necessary and will include the requirements described herein in the agreements established with the local agencies prior to deployment of the new system.

XII.7.1. Policies and Procedures Related to Security

Security related policies and procedures might be needed in the following areas, each of which is discussed below:

- Procedures for Assigning and Revoking Employee Access
- Password Management
- Role Assignment
- Physical Security

XII.7.1.1. *Procedures for Assigning and Revoking Employee Access*

Policies regarding WIC staff members whose employment has been terminated by the WIC program will include revocation of their login ID and passwords prior to notifying the employee of termination procedures. All employees must be removed from the system on or before their employment termination date. All WIC program equipment and access keys shall be returned and logged in to the inventory list. In addition, no involuntarily terminated employees will be allowed access to a WIC facility without continuous supervision while on the premises.

Conversely, a process will be developed for notification to set up a new user account along with the necessary access rights defined by the employee's position and supervisory authority. State agency management will review a list of authorized users

and their access rights on a periodic basis to ensure the list is correct and the access rights provided are appropriate.

XII.7.1.2. *Password Management*

The enforcement of password security is a responsibility shared by the system administrators and users of the new WIC MIS. Every user account must have an associated password; no logins will be allowed without a password. Passwords will never be shared, divulged to coworkers, posted next to a computer, or written down. If it has been determined that a password has been shared, either deliberately or inadvertently, the user or system administrator must change the password immediately. Even if passwords have not knowingly been compromised, they will be changed on a regular basis.

XII.7.1.3. *Role Assignment*

User roles and levels of access assigned to those roles will be defined during the design confirmation phase of the new WIC MIS. Policies regarding how the roles are to be assigned to personnel in both the state office and clinic settings need to accompany the roles definition. Nebraska will develop these policies well before the system goes to User Acceptance Testing (UAT).

XII.7.1.4. *Physical Security*

Procedures will be instituted to codify the policies described above in Physical Security of System Resources.

XII.8. *Security Training*

Security training is essential to ensure that proper security policies and procedures are followed and carried out by all WIC staff. The security training will be integrated into the training of all state and local level staff for the new Nebraska WIC MIS. Security training will include general security information, such as the need for security and WIC MIS vulnerabilities, training in security policies and procedures, particularly password management and security incident handling, and system-specific security training, such as how passwords are changed. User documentation will be thorough and well organized, and will include easy-to-use cross-references and detailed sections on security policy and procedures including a written policy describing the procedures for reporting and handling security incidents. It is important that there is no ambiguity on how to handle security associated with this documentation to assure that proper security policy and procedures are in place.

XII.9. *HIPAA*

The Nebraska WIC MIS will interface with systems that are compliant with state and federal adherence to the Health Insurance Portability and Accountability (HIPAA) Act of 1996. HIPAA defines safeguards to protect the confidentiality, integrity, and availability of electronic protected health information. As these standards require measures to be taken to data that is passed between covered entities and from covered entities to others,

the HIPAA guidelines must be considered in the transmission of data from the WIC application. Application of this rule shall only comply with the requirements on the system data itself. Federal HIPAA regulations can be found at the following web site: http://www.hipaadvisory.com/regs/.

XIII. Training Plan

This chapter of the IAPD describes current training plans. Final training plans will be negotiated with the D&IC.

This training plan is intended to guide the process of developing and conducting training for the new Nebraska WIC MIS. This Plan will serve as the basis for the development of a detailed training plan by the D&IC as a product of their engagement. The activities laid out in the training plan are a necessary part of system implementation and will maximize its effectiveness. The training activities will be accomplished in concert with the two-stage implementation (a pilot followed by statewide rollout to the remaining agencies) of the new system. In addition, training materials and methods will be used after the conclusion of system implementation as new WIC staff are hired and learn to use the system.

XIII.1. *Training Objectives*

The overall goal of training is to ensure that all WIC staff members are capable of utilizing the new WIC MIS appropriately to support their WIC duties and responsibilities. To ensure this occurs successfully, each training event will be evaluated by assessing the competence of the attendees following the training. To accomplish this goal, the following specific objectives are set:

- Upon completion of the training, each trainee will have learned how the new MIS will support the execution of their duties and responsibilities and enhance the provision of Nebraska WIC services.
- The training must relate directly to the local agency and clinic procedures and state office management activities that are necessary to operate and manage the Nebraska WIC program by use of sample data and operations based scenarios.
- Each trainee will be objectively evaluated to ensure they have obtained the capability of using the new WIC MIS effectively at the completion of training.
- The training must be presented in a user friendly and positive manner to ensure buy in from the trainees.
- The training must be supported by materials including schedules, overviews, exercises, and examples to support and enhance the training experience.
- The training must be completed prior to implementation of the new system in the trainee's WIC LA or functional unit of the SA.

The remainder of the training plan presented below is intended to support these objectives. Given that the new MIS will be a transfer of an existing system for which the D&IC has already developed and employed training materials, it is expected that those materials may be utilized for Nebraska training purposes with little modification, assuming they are sufficient to meet the above stated objectives.

XIII.2. *Types of Training*

In order to accomplish successfully the training goal and specific objectives, it is anticipated that the following specific types of training will be conducted:

- System Orientation Training
- System Operations Training,
- UAT Training,
- Help Desk Training,
- Train the Trainer Training,
- Pilot Training,
- LA/Clinic Staff Training, and
- SA Staff Training.

Each of these training types is described separately below. Each will require the appropriate training modules. As the Project is a transfer of an existing system, it is assumed that the majority, if not all, of the needed materials are already in place and would likely require only minor modifications, if any. While the design of the new WIC MIS will, largely, dictate the actual content of the system training modules, certain requirements can be specified at this point. For example, for each training type, modules appropriate to each type of responsibility are required. Thus, the Nebraska system training modules for state staff will require training specific to food delivery, vendor management, financial management, etc., while the local agency training will include intake, income eligibility determination, anthropometrics, risk assessment, etc.

XIII.2.1. System Orientation Training

It is Nebraska's intention to begin early in the Project to develop a team of local agency and State Agency 'super users' who will be utilized to assist the D&IC in the conduct of the training and will provide support to the local agencies as they go live with the new MIS. These super users will be drawn from the State and local agency staff who have already participated in the design sessions leading to the development of the Nebraska FReD. To initiate the development of the super user group, Nebraska will ask the D&IC to conduct a System Orientation Training for the group prior to initiation of detailed design sessions. This training will mimic the training to be provided to users for future activities including UAT, Pilot and Rollout. The super users will then be able to approach the detailed design of the system with an understanding of the transfer system functionality and operation. The super users will also be drawn from to conduct the UAT, adding to their proficiency in the system. They will attend and assist in Pilot training and then support the Pilot agencies on site for a period of time to assist the local agency staff in learning to use the system in a live environment. Following, Pilot, the

super users will be drawn from to support each rollout agency with on-site mentoring for a period following their implementation. The training will be held in a central location, such as the State offices, and consist of one full week training session for all designated super user staff.

XIII.2.2. System Operations Training

In the event that outsourced operations are not cost effective, the D&IC will be required to train the Nebraska technical staff that will operate the new system beginning with UAT. The training must be of sufficient technical detail to allow trainees to assume responsibility for all system operations requirements. It will also take into account the general level of systems expertise of the trainees prior to the training. The Systems Operations Training will ensure that state technical staff is competent to manage and balance all of the related features of a web-based system. One training session will be conducted by the D&IC for this purpose in a central location. It may be assumed that the state technical staff will have some expertise in the relational database management system (RDBMS) utilized by the WIC MIS as well as in the .NET Smart Client operating systems and architecture.

XIII.2.3. User Acceptance Test Training

Staff members who participate in the UAT process will follow structured scripts prepared by Nebraska staff and the QA contractor. However, it is necessary to provide training on the use of the system prior to beginning the UAT process. This enables the testers to follow the test scripts more confidently and with fewer mistakes. The D&IC will prepare and conduct this training. The training will be a full system training based on the training that will be provided to State and local agency staff for Pilot and Rollout. These training sessions will be conducted for State and local agency participants in the UAT at a central location, such as the State offices. This training is estimated to occur over a one week period.

In addition to the system training, test staff training will also include a brief (half day) training on the UAT purpose and process. This training will be conducted by the QA contractor as an adjunct to the D&IC system training.

XIII.2.4. Help Desk Staff Training

Nebraska WIC will staff a Help Desk to answer questions from local agency and State Agency users of the system. The Help Desk staff will participate in both UAT and pilot training as well as in the UAT. The UAT training will provide an initial introduction to the system while the Pilot training will reinforce their understanding. Participation in the UAT will provide additional opportunity to become familiar with the system. The period during Pilot and statewide rollout will serve as additional “on the job” training under the general supervision of the D&IC. The contractor will coordinate with and serve as a resource to Help Desk staff during this period. At the end of rollout, Help Desk staff will be expected to be fully competent to effectively perform Help Desk responsibilities on their own.

XIII.2.5. Train the Trainer Training

The D&IC will provide training sessions for the Nebraska super users who will support the local agencies and assist in training the clinic staff prior to statewide rollout. The training sessions will address the training approach, schedule, and materials with special emphasis on answering clinic user questions that may arise as well as evaluation of trainee proficiency. The super users will receive the Train the Trainer Training prior to the start of Pilot so that they may assist in the Pilot agency training and any training of State Agency staff necessary for Pilot. This will provide additional preparation to ensure that these Nebraska SA staff members are prepared for the start of agency-wide rollout. One training session, estimated to be three days in length will be conducted for the super users in a central location.

XIII.2.6. Pilot Training

The D&IC shall provide training for the local agency staff that will be involved in the pilot. Nebraska super user staff will attend and will co-conduct the sessions so as to gain hands-on training experience. The D&IC's staff shall provide feedback and insight into areas for improvement. Training shall be of sufficient length to ensure adequate comprehension as agreed to between the State and the D&IC. It is estimated the training will be for a one week period. The training will be held in a central location for the staff of both Pilot agencies.

XIII.2.7. Local Agency/Clinic Staff Training

D&IC and super user staff will co-conduct local agency/clinic staff training. This training will consist of a system overview for all local agency/clinic staff and functionally specific training for staff that will utilize various functions of the new system. The training will provide real-world examples of system tasks for each staff responsibility and program functional area. To the extent there is separation of responsibility between clinic staff, support staff will be trained in functions of the system related to their duties, such as participant data input, FI issuance, and appointment scheduling. Nutritionists and other professional or health assessment staff will be trained in functions of the system related to health assessment, certification, etc. The training will take into account that in many local agencies/clinics, there are only a few staff and each person may need to be trained in a number of functions. This training will also cover the material and online help participants will use with the web interface.

Any changes in agency policies and procedures resulting from the new system will be incorporated into the training. The trainings will be held in several locations around the State for groups of local agency/clinic staff. Training groups will not exceed thirty participants. Local agency/clinic staff will be trained the week prior to their clinics going live to ensure retention of necessary skills.

XIII.2.8. State Agency Staff Training

D&IC staff will conduct State Agency staff training. This training will consist of functionally specific training for all Nebraska State Agency staff that will utilize the new system. The training will include hands-on examples of system tasks for each program operational area. Different training sessions will be provided for each program functional area and will provide real-world examples of system tasks. Training in some functional areas may extend beyond immediate State Agency staff and may involve staff in other state resources (e.g., finance).

As with the local level staff training, any changes to state agency policies and procedures resulting from the new system will be incorporated into the training.

XIII.3. *Training Methodologies*

Addressed below are several types of methodologies Nebraska intends to use during training. These include demonstrations, classroom presentations, hands-on experience, written materials, and computer based training. Each of these methodologies complements the others, and WIC training sessions will be comprised of a combination of all five methodologies. Each of these methodological approaches is discussed briefly below.

XIII.3.1. Demonstrations

A demonstration involves using the system to present a live, real-time illustration of the system feature or function that is being taught. Ideally, this is accomplished by using the actual WIC MIS running in a computer in which the video output is connected to a display device, such as an LCD projector, that allows the class to view the system windows as they would appear on a monitor during system use. If for some reason this approach is not possible or practical, a slide demonstration using screen shots of the system can substitute, although the former method is much preferred.

In general, a particular feature of the system that is being taught will be demonstrated, accompanied by an oral explanation, before the class is given hands-on exercise that covers that feature.

XIII.3.2. Classroom Presentations

Classroom presentation refers to the presentation of material orally by the instructor. As noted above, this is usually accompanied by a demonstration of the system feature or function that is being taught. An advantage to this mode of training is that it is the most amenable to questions and answers.

XIII.3.3. Hands-On Experience

Hands-on experience refers to the student solidifying his or her understanding of a system feature by practicing the use of the feature on the actual system running on a computer that is comparable to the one that the student will be using on the job. Whenever a

training module is teaching a specific feature of the system it is expected that the training will incorporate hands-on experience. Hands-on exercises are not necessary when teaching general concepts that underlie the system's design.

XIII.3.4. Written Materials

All training modules shall include written materials to assist users in learning the new system and to provide a reference once the training is completed. Written materials will include at a minimum the following:

- User manuals, including comprehensive on-line help;
- Quick reference system instructions;
- A day-by-day outline of the training course to which the materials pertain;
- Screen shots from the actual system that illustrate operation of the function being taught in that section of the materials;
- Illustrations of system outputs where appropriate;
- Written text, tables, illustrations, etc. that explain the concepts underlying the system, how to operate it, references to relevant WIC policies and procedures, and which give relevant examples; and,
- Explanation of reports including data parameters that are being used in processing all of the reports.

The organization of the written materials should mirror the order in which the material is presented in the training module. It should repeat in written form what is presented orally and by demonstration so that the trainees receive the new information in at least four modes – auditory, written, visual, and experiential.

XIII.3.5. Computer Based Training

Computer Based Training (CBT) is an interactive learning experience between a trainee and a computer in which the computer provides the information, the trainee must respond, and the computer analyzes the response and provides feedback to the trainee. CBT can be used as 1) a tutorial to introduce new information that must be taught in a sequential manner, 2) a drill and practice to provide an opportunity for practice when mastery of new information is desired, and 3) a demonstration or presentation to support the introduction of new information. This type of training can be integrated into a class where the instructor can play the facilitator role, but CBT is also effective as a review tool after initial instruction.

XIII.4. *Training Equipment and Location*

To support the hands-on training methodology, it will be necessary to furnish sufficient equipment to provide each trainee with access to a complete PC workstation. To simulate actual clinic conditions, a method for transmitting data must be established between the training facility and the central processor. It will not be necessary to provide a separate printer for each trainee, but they must be available in sufficient number to support hands-on experience in food instrument production and report generation.

The complete list of hardware requirements for training will be determined during system design and compared with the inventory on hand. In addition, Nebraska will procure sufficient peripherals (i.e., scanners, signature pads, and printers) to support the training inclusive of potential multiple training events occurring concurrently. The provision of other types of equipment as may be required by the contractor's training approach, such as overhead projectors, data display adapters, projection screens and easels, etc., will be the responsibility of the D&IC to provide. However, the contractor may arrange to use existing equipment owned by the Nebraska WIC program when possible.

State Agency user training will be conducted in a facility to be established at or near the Nebraska WIC office. Clinic staff training will be held in several locations around the State for groups of local agency/clinic staff.

XIII.5. *D&IC's Training Plan*

The D&IC will be required to develop a complete training plan that includes all materials for distribution, the syllabus of the training, and the agenda for all training sessions. Drafts of all training plan items shall be submitted to the State for approval. Final approval of all training materials and a training plan meeting all goals, provisions and objectives of the training activities as described above will be required from the State prior to initiation of training activities.

The D&IC will provide sufficient training materials to allow each trainee the use and retention of his or her own individual copy. This includes a complete student training manual and copies of any additional handouts utilized in training events. In addition, the contractor will provide electronic, fully editable copies of training materials so that Nebraska can make revisions as future training requirements change.

The D&IC will prepare a complete syllabus for each type of training session. Each syllabus will include a list of topics to be covered and a daily schedule. The contractor must also provide an objective evaluation tool for each type of training activity. These tools must be capable of demonstrating that trainees have gained sufficient understanding of and proficiency in the new system to be able to use it to perform their WIC program responsibilities. Each trainee will be required to complete the evaluation process at the conclusion of the training event. In addition, it may be desirable for evaluation to be conducted at other points during training sessions. The evaluation will assist the trainers in improving the training process and provide a means for trainees to indicate their level

of satisfaction with the training program. Both objective and subjective evaluation of the effectiveness of training will be crucial to the success of system implementation.

Nebraska will entertain contractor-suggested options for meeting overall training requirements and objectives that differ from the plan presented here. Regardless of approach, it is required that training be closely coordinated with system rollout to ensure that training for staff from an individual local agency is followed closely by system implementation in that agency's clinics.

XIV. Request for Waiver of Depreciation

Although it appears there is no single item meeting the requirements for a Waiver of Depreciation at this time, in the event that there is an item that requires this approval, a Waiver of Depreciation is being requested. FNS reimbursement over the life of the equipment will cause cash flow problems that could delay the project and increase overall costs.

XV. Attachment A: Prioritized List of Desired System Enhancements

Desired Modification	Estimated Cost
System must meet Nebraska specific user password requirements/restrictions	$ 25,000.00
System must comply with the DHHS desktop management policy	$ 9,000.00
Modify the system to interface with an on-line EBT system (1)	$350,000.00
"Re-Brand" the system so all screens and reports show Nebraska WIC and the selected system name.	$ 25,000.00
Provide Field for Participant Text Message Number	$ 9,000.00
Export /Import Foster Care File	$ 9,000.00
Provide Field for Check Box for Participant Preference for Appointment Notice Contacts (e.g., Phone, Mail, Email, Text Message)	$ 18,000.00
The family alerts and message tabs need to be visible from the WIC Appointment screen in addition to where they appear now (certification, summary screens…)	$ 9,000.00
Support NE WIC Program integrity in the area of participant violations and sanctions by providing a check box to extend violations and/or sanctions to all family members	$ 25,000.00
Total Estimated Cost of Modifications	$479,000.00

(1) Nebraska is currently engaged in an EBT Feasibility Study to be followed by implementation planning. It is likely that at some point in the MIS Project an EBT contractor will be procured. It is not known at this time if Nebraska WIC will select an on-line or off-line EBT solution. The MPSC system currently is programmed to support EBT in an off-line approach for Wyoming. If Nebraska selects an off-line approach for EBT it is likely that only minor modifications to the MPSC system would be required to meet Nebraska's needs. However, should Nebraska select an on-line approach to EBT it will be necessary to modify the system to interface with the selected on-line EBT system. It is possible that this modification will have already been accomplished by another state prior to the Nebraska project.