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WIC ELECTRONIC BENEFIT TRANSFER (EBT) IMPLEMENTATION
AND SUPPORT SERVICES PROJECT

FOR

DIVISION OF PUBLIC HEALTH

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ATTACHMENT # 1

Please Note:

THE ATTACHED SHEETS HEREBY BECOME A PART OF
THE ABOVE MENTIONED BID.

USDA Food and Nutrition Services Functional Requirements
Document Appendix E: EBT System

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APPENDIX E: ELECTRONIC BENEFITS TRANSFER (EBT) SYSTEMS

APPENDIX E: EBT SYSTEM FUNCTIONALITY

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E.1 Introduction

Electronic Benefits Transfer (EBT) is the use of electronic mechanisms (usually card based) to enable recipients of program benefits to access those benefits in private sector commercial locations (e.g., ATMs, authorized grocery store, other commercial locations). EBT has been successfully implemented nationwide for the distribution of Supplemental Nutrition Assistance Program (SNAP; formerly Food Stamp Program) benefits and for cash benefits approved by multiple funding programs, including Temporary Assistance for Needy Families (TANF). It has proven to be cost efficient, enhances effective program management, and is well received by all stakeholders.

Many stakeholders feel that the application of EBT would be advantageous to the WIC program and, in fact, there are currently multiple programs demonstrating the use of EBT for the disbursement of WIC food benefits to clients. USDA/FNS is encouraging State agencies to pursue EBT as a means to strengthen participant service, increase accountability, and streamline the participant and vendor shopping experience.

E.1.1 What is “the EBT System”?

This FReD has been written to specifically identify functions that are required for EBT readiness neutral of the technology and approach used for EBT (online, offline, in-house or outsourced). Conceptually, WIC EBT is implemented as a stand alone set of functionality or modules that interfaces with the WIC Information System (IS) to: receive demographic and benefit data, maintain the WIC household EBT accounts, maintain card information, acquire and validate WIC redemption transactions from the grocers, process payments to the grocers, and supply the WIC IS with redemption data used for reporting and reconciliation.

Because there are several options in technology as well as approaches to how a State agency implements WIC EBT, the term “*the EBT system*” has been used in the document as a generic, technology neutral description. *The EBT system* represents the specific system, modules, components, or contracted processor that a State agency chooses to support EBT account management, card management, transaction processing, and settlement.

E.1.2 How EBT is Addressed in the FReD

EBT has been addressed in two ways in the FReD. First, the functions that support the “EBT-readiness” of a WIC IS are included in the functional descriptions contained in Section 3 of this document. The

information provided in Section 3 addresses those functions that are considered necessary to support EBT readiness and would be included in the WIC IS and are generally not part of *the EBT system*. Second, functions of *the EBT system* needed for implementation are addressed in this appendix. This appendix is intended to assist State agencies in understanding the basic requirements of *the EBT system*, which deal with requirements that are outside of the WIC IS such as retail electronic system interfaces. In this way, State agencies that are considering initiating EBT or that are considering a new WIC IS can use this information to facilitate their planning and procurement efforts.

E.1.3 Overview of EBT-Readiness

As State agencies initiate new systems, they should design their new WIC IS so that the transition to EBT is as easily as possible. Therefore, the functions and processes in the FReD are designed to facilitate this transition and have been described in Section 3 of this document.

The EBT-readiness functions are those functions that a WIC IS needs to support the various functions that the IS needs to perform in order to establish and update EBT accounts; issue, update, replace and void benefits; issue and replace cards; and support reporting and reconciliation from the IS perspective. Most of these functions are used to obtain information maintained in the IS as part of the certification process and transmit that information to *the EBT system*. Another term that is often used is “EBT-functional.” These are functions that the *EBT system* needs in order to support all of the activities related to account, benefit and card maintenance in the EBT system; as well as retail and administrative transaction processing, financial reconciliation, and reporting. These are generally functions of *the EBT system*, not the WIC IS.

The following is a listing of those functions that are considered functional requirements to support EBT-readiness in a WIC IS along with their specific section reference in Section 3. Please refer to Section 3 for more information.

- 3.3.1.1 Maintain Food Category/ Subcategory Table
- 3.3.4.1 Maintain UPC Database for WIC Authorized Foods
- 3.3.4.2 Establish Food Item Maximum Allowed Amounts
- 3.4.2.1 Establish EBT Account
- 3.4.2.2 Add Participant(s) to an Account
- 3.4.2.3 Issue Electronic Benefits

- 3.4.2.4 Issue EBT Card
- 3.4.2.5 Obtain Account Balance
- 3.4.2.6 Update EBT Account Information
- 3.4.2.7 Remove Participant(s) from an Account
- 3.4.2.8 Process Changes to Electronic Benefits
- 3.4.2.9 Process Changes to Electronic Benefits (Benefit Adjustments, Voids and Reissuance)
- 3.4.2.10 Process Changes to EBT Card (Status Changes/Card Replacements)
- 3.5.3.1 Process Vendor Payment
- 3.5.4.1 Retrieve Benefit Issuance File
- 3.5.4.2 Retrieve Transaction History Data and Reconcile Redeemed Benefits with Issuance File
- 3.9.6.3 Determine High Risk Vendors (EBT Environment)

E.1.4 New Food Package Rules

The current version of the FReD has been updated to reflect all changes related to the new food package rules. The functionalities defined in this appendix are consistent with the new rules, including the addition of the cash value voucher (CVV) for fruits and vegetables. Alternatives for the CVV were analyzed extensively in a report prepared by the State Information Technology Consortium (SITC). Also reviewed were the CVV Business Rules, Technical Considerations and Requirements for Retail Electronic Cash Register and Point of Sale (ECR/POS) Systems defined by the CVV work group. Both documents can be found on the FNS website at <http://www.fns.usda.gov/wic/EBT/wicebt.htm>.

E.1.5 Appendix Organization

This section presents an overview of the sections contained in the appendix.

- **Introduction:** This section presents an overview of Appendix E.
- **What is EBT?:** This section explains for readers who are new to EBT what an EBT system is and how it works. It addresses the various technologies including the considerations and decisions to be made regarding each. It also provides information on different ways of implementing a system using an in-house or outsourced approach and the key factors to be considered for each.

Additionally, the section includes a discussion of strategies for enabling vendors to support WIC EBT.

- **EBT System Functions:** This section outlines the functions associated with a WIC EBT system. To the extent possible, these functions should not overlap with the EBT-readiness functions identified in Section 3 of the FReD.

E.2 What is EBT?

Traditional EBT is the use of card-based electronic mechanisms to enable recipients of government program benefits to access those benefits in private sector commercial locations. It is a public / private partnership that leverages existing payment infrastructure and technology.

EBT has been successfully implemented nationwide for the distribution of SNAP benefits and for cash benefits approved by multiple funding programs. Recipients of benefits under these programs access their benefits (depending on the type of benefit) at ATMs, point of sale (POS) locations, or in the case of SNAP benefits, only at POS locations in authorized SNAP grocers. EBT has proven to be cost efficient, enhances effective program management, and is well received by all stakeholders.

The concepts and technologies of EBT are now being applied to the distribution of WIC benefits in WIC authorized grocers. The process has been slow in evolving, primarily because WIC benefit redemptions are unlike a SNAP or cash redemptions that are limited to the purchase amount of each transaction. WIC benefits are food item-based and for the most part are independent of the price of those items, working more like an inventory transaction than a payment transaction. The exception to this is the cash value for fruits and vegetables. Consequently, significant changes have been required in existing payment infrastructure to support the WIC redemption transaction. However, most of the hurdles have been overcome; the technology has been proven feasible for WIC and the necessary technology is gradually permeating throughout the WIC vendor community.

E.2.1 EBT Overview

WIC IS functionality and workflow in the clinic generally does not require systemic change because of EBT. Intake, eligibility screening, nutrition and health assessment, nutrition education, food package management, and food package assignment all remain essentially the same. However, the food benefit issuance process changes. WIC EBT replaces the printing of paper food instruments (such as checks or vouchers) with an electronic WIC benefit account held in a household account database. The following list provides a summary of activities that will be necessary to issue WIC benefits via EBT; the order of these activities may vary depending on the EBT technology and workflow processes that are implemented:

- A WIC EBT account is established for a household/family.

- A WIC EBT card is issued to the head of household or person responsible for the WIC benefits.
- The cardholder selects a secret Personal Identification Number (PIN) used to provide security on the redemption transactions.
- Benefits are issued to the participants in the household. The benefits for all participants within a single household are aggregated into one household benefit amount. Benefits are generally aligned (synchronized) on the same “valid through” dates. (This simplifies benefit management and the in-lane purchase transaction).
- Individual food items within a food package are converted from text printed on a check (i.e. Milk, 4 gallons / 16 quarts) to a category / subcategory (cat / subcat) and unit of measure code (i.e. cat 01, subcat 000, quantity 016). The cat / subcat and unit of measure used are based on the FNS-developed standard reference of WIC eligible food items.
- Household benefits are posted to an electronic account that is accessible using the EBT card. Multiple months of benefits may be posted to the account at the time of issuance. However, future months’ benefits will not be available to the household until their benefit start date. This is similar to printing checks for multiple months during the clinic visit. The EBT system automatically checks the “valid through” dates during each purchase and will remove access to any unused benefits at the end of the valid through date.
- Each State agency has a unique approved product list. The State agency is responsible for managing all specific food items (as identified by the Universal Product Codes (UPC)) that are approved within the State agency’s WIC program. The State agency links each food item to the appropriate category / subcategory entry. This essentially creates an electronic State food list of UPCs and links each UPC to a specific category / subcategory code (e.g., milk UPC #123 is linked to category 01,000), referred to as the approved product list (APL). The APL is subsequently made available to WIC vendors to facilitate the in-store redemption processing.

It is during the redemption process in the vendor checkout lane that the true value of EBT becomes apparent. The functions that, under a paper system, are the responsibility of the cashier, are automated under EBT. Cashiers are no longer responsible for ensuring the correct foods are purchased by participants because only the prescribed foods on the APL will be able to be purchased with WIC benefits. The manual verification

of allowable foods is replaced by electronic technology – the combination of the EBT card and electronic prescription, the scanner and the APL.

The in-store redemption process in the checkout lane generally includes the following functions. (Note, there are options for how this is done depending on the technology or retailer implementation and the order of activities may vary by system or vendor.):

- The card is read or swiped in the checkout lane and the cardholder enters their secret PIN. The household's current account balance is made available to the store system.
- Each WIC food item presented for purchase by the shopper is scanned to obtain the UPC and item quantity. The UPC is checked against the APL (downloaded to the store on a nightly cycle) to find out if the item is WIC authorized. If yes, the cat / subcat linked to the UPC is obtained from the APL and is checked against the household's current WIC benefit balance. To be approved for purchase, the household's food balance must contain the cat / subcat in a quantity greater than or equal to the quantity being purchased. If approved, the item is registered as to be paid by WIC and its price is recorded.
- Note that EBT presents the possibility for a "mixed basket" approach to benefit redemption. Participants, depending on the cash register system or vendor, are no longer required to physically separate WIC food items from other items¹; the system will sort WIC-allowable foods from non-WIC foods being purchased automatically. Consequently, the WIC shopper can complete their shopping without the stigma of separating their WIC foods in the store, and is not easily singled out as a WIC participant. The mixed basket is a State agency option, but EBT systems should have this capability.
- At the conclusion of the checkout, all items flagged as WIC approved are packaged into a WIC purchase. Any discounts such as coupons or loyalty card discounts are recorded. The household account balance is updated (i.e., quantities of available food items in the household account are reduced by the purchased amount).
- The store receives a purchase approval, either by validating against data stored on a smart card or from an online transaction against a central account database depending on choice of technology; a WIC receipt is printed verifying the items purchased, the

¹ This may depend on the system. A vendor using a stand-beside system may still require that WIC items be separated from non-WIC items.

remaining WIC food balance, and the total amount paid for the purchase.

- Each day (typically on banking days), the store will receive an electronic settlement for all approved WIC purchases. The amount of settlement is the requested amount based on shelf price less any discounts and less any not-to-exceed pricing exceptions.

With an EBT system, cashiers no longer are required to:

- Validate the shopper's identity; this is done through the entry of the secret PIN;
- Check the "valid through" date on multiple paper food instruments because the system only allows purchases against benefits that are available within the valid-through date;
- Verify manually that items being purchased are on the paper food instruments presented and in an allowable quantity; and
- Collect the participant signature.

With WIC EBT, the time in lane, redemption errors, and a need for extensive clerk training are reduced, especially where the cash register is integrated.

The State agency is also a beneficiary of the improved technology. EBT provides significant detail about the specific foods purchased and the specific price paid, thus allowing the WIC Program to monitor and manage its food costs much more closely. Vendor cost containment can also be improved by using EBT pricing data to automatically calculate and recalculate maximum pricing for vendor peer groups. Peer group maximum prices can be updated more frequently without price surveys and reflect changes more accurately. Further, it is possible to closely monitor a household's use of WIC benefits and through education and food package management, increase the effectiveness of the program in serving that specific household.

E.2.2 Technology Alternatives

A WIC State agency has a choice of technology by which it can implement EBT. Currently, the two methods include online transaction technology using magnetic stripe cards and offline transaction technology using integrated circuit chip cards (hereafter referred to as "smartcards"). State agencies have expressed an interest in each of these approaches and both have been successfully implemented.

Both technologies have demonstrated the capability to enforce Program policy in the checkout lane while streamlining the shopping experience. FNS is technology neutral and encourages State agencies to pursue projects that advance the use of EBT in a cost efficient manner consistent with their business needs and the best interest of their stakeholders. Throughout this document, every effort is made to fully describe function and processes as they apply to both offline and online solutions.

E.2.2.1 Online

With the online EBT model, the benefits issued to the household are stored in a household account in a central database (the EBT host system). A magnetic stripe card, similar to a debit or credit card, is issued to the client to access their account balance on the EBT host system online, real-time in the checkout lane. The following activities are typically part of an online WIC EBT transaction:

- In-lane the transaction is initiated when the client swipes their card and enters their secret PIN.
- The vendor system submits an online transaction to the WIC EBT host checking if the card and PIN are good and then requesting the family / household's available food balance. The available WIC food balance is sent to the store.
- The bar code of each item being purchased is scanned and first matched against the APL, and then to the food items and cat / subcat quantities contained in the account balance to see if they are eligible for payment by WIC.
- After all food items are scanned, the vendor's system sends a purchase request transaction to the WIC EBT host for approval. This purchase request identifies all WIC-eligible food items. Shelf prices are attached to each individual item and any discounts are totaled and recorded in the transaction.
- The WIC host returns an approval transaction to the store indicating the approved items and the total purchase amount. The vendor will be reimbursed on the next settlement cycle for this purchase and others that occur during the day. Any adjustment edits against the State agency maximum price requirements are reflected in the approval response.

Several messages between the vendor's system and the WIC EBT host may occur as part of the approval of a single purchase transaction. Online WIC EBT transactions require a telecommunications connection between

the store and the WIC host system at the time of purchase. All transaction processing is completed at the time of purchase. Payment processing (settlement) is based on transactions approved at the WIC host. No additional claim file is necessary.

E.2.2.2 Offline

In the offline EBT model, benefits issued to the household are stored on the EBT smartcard. All transaction processing occurs within the vendor's store between the vendor cash register system and the smart card. No real time external communications is necessary. The following activities are typically part of an offline WIC EBT transaction:

- The WIC EBT card is inserted into a card reader and the cardholder enters their secret PIN.
- The food balance is obtained directly from the card.
- The bar code of each item being purchased is scanned and first matched against the APL, and then matched to the food items and cat / subcat quantities contained on the WIC EBT card to see if they are eligible for payment by WIC.
- The vendor's system approves the items eligible for purchase and updates the card balance.
- Information regarding the transaction is written to a claim file that is submitted to the State EBT host settlement server nightly. Shelf prices are attached to each individual item and any discounts are totaled and recorded in the detailed claim file records.
- Each day, the State EBT settlement server processes the store claim files for payment processing and checks purchase prices against the maximum pricing edits.

No telecommunications setup is necessary for each purchase in the checkout lane. However, telecommunications are required for the nightly claim file to upload transaction data and download any updates to the APL and hot card information. (Hot cards are cards disabled if reported lost, stolen or damaged). State agencies are supporting both dial-up and internet access (via FTP) for these daily files exchanges. WIC vendors require equipment and software to read each State agency's smartcards if not already installed.

E.2.2.3 Online and Offline Comparison

The following table presents the similarities and differences of offline and online technologies related to certain EBT concepts and may prove helpful in assisting a State agency in formulating its EBT project.

<i>Exhibit E – 1: Offline / Online EBT Comparison</i>		
System Area	Offline	Online
Card	<p>Smart card technology with prescription stored on card.</p> <p>Higher cost per card.</p> <p>No capabilities for alternate cardholders (no more than one card per account).</p>	<p>Magnetic stripe technology with prescription stored in central database.</p> <p>Lower cost per card.</p> <p>Readily supports alternate cardholders (additional cards can be issued to proxies).</p>
Benefit Issuance	<p>Requires physical presence of card (and cardholder) at issuance location (clinic).</p> <p>Note that multiple months benefits may be loaded on card during one visit.</p>	<p>Benefits are posted to a central database over telecommunications lines. Card and cardholder need not be present. (However, WIC policy generally requires presence of client for benefit issuance).</p> <p>Requires reliable telecommunications from clinic to host system.</p> <p>Requires availability of host system.</p>
Benefit Change	<p>Requires physical presence of card (and cardholder) at issuance location (clinic).</p>	<p>Benefits are modified directly on the central EBT host. Card and cardholder presence is not required where remote benefit updates may be needed.</p>

<i>Exhibit E - 1: Offline / Online EBT Comparison</i>		
System Area	Offline	Online
Redemption Transaction Processing	<p>All processing is accomplished within the confines of the store.</p> <p>No telecommunications is required for checkout lane transactions.</p>	<p>Requires reliable telecommunications between the store and EBT host system to process checkout transaction.</p> <p>Complex multi-message transaction may take longer than typical online debit or traditional EBT transactions.</p> <p>Transaction fees or telecommunication costs may apply if commercial payment networks are used.</p> <p>Could be set up to do "store and forward" at the vendor's risk if telecommunications are unavailable.</p>

<i>Exhibit E – 1: Offline / Online EBT Comparison</i>		
System Area	Offline	Online
Transaction Routing	<p>Daily claim files are generally sent directly to the State agency for processing and download files such as the APL and hot card list (HCL) are sent directly back to the vendors from the State agency (or its surrogate).</p> <p>Chain stores operating in multiple states may require capabilities to route and manage files for multiple WIC authorities.</p>	<p>Online transactions often make use of intermediary processors (TPP and Gateway) to move a transaction from the vendor to the processing host.</p> <p>Transaction routing is performed real-time, usually by an intermediary processor, to the appropriate WIC State Agency (or their processor) and no claim file is needed.</p> <p>This solution enables a chain or border vendor to process redemptions for multiple WIC State agencies without the need to establish separate connections to each State system.</p> <p>These intermediaries must undergo technology upgrades (in addition to what is required of the in-store systems) to accommodate the complex WIC message format and flows.</p> <p>Fees may apply to the use of these intermediaries.</p> <p>An APL is necessary, but the HCL is not distributed to vendors; it is maintained centrally.</p>

<i>Exhibit E – 1: Offline / Online EBT Comparison</i>		
System Area	Offline	Online
System Availability	<p>Card must be functional to access benefits.</p> <p>Limited voice authorization and paper voucher backup process at vendor's risk has been implemented but with little acceptance.</p>	<p>Requires operational telecommunications and EBT host system including any intermediate processors.</p> <p>Manual card entry (for when the card reader is inoperable) and manual telephone authorization (for when telecommunications to the host system is inoperable) are possible but cumbersome.</p> <p>Store and forward processing is possible but creates financial liability for the vendor.</p>
Host processing	<p>The host interface with the vendor is a batch mode. This has much less stringent requirements for uptime and response time than does an online interface.</p> <p>This can be less costly for a State agency to maintain.</p>	<p>Host system transaction processing requires 24x7 (24 hours a day, 7 days a week) availability and rapid transaction response times.</p> <p>This is a more complex environment than offline processing.</p>
Card/ Benefit Replacement	<p>The WIC participant must come to the clinic to receive a replacement card and to transfer the remaining benefits to the new card.</p> <p>There is generally a 48 hour waiting period to replace lost benefits to ensure all outstanding purchases have been paid.</p>	<p>A card replacement will immediately link any remaining benefits in the household account to the new card number.</p> <p>A replacement card can be mailed to the participant or it can be issued immediately in the clinic.</p>

<i>Exhibit E – 1: Offline / Online EBT Comparison</i>		
System Area	Offline	Online
Hot Card and Card inactivation	Detecting fraudulent use of a lost or stolen card requires a download of the HCL to all authorized vendors. This is generally done each day; therefore the information may be 24 hours or more out of date.	A lost or stolen card can be stopped immediately once reported; thus preventing any further use of that card and protecting the remaining benefits for the family.
Security	<p>Uses PIN security to access benefits contained on card.</p> <p>Requires presence of card and cardholder at clinic location to select or change the PIN.</p> <p>A special key is required to update benefits on the card.</p> <p>A transaction signature is used to ensure validity of all transactions presented in a claim file.</p> <p>State agency must manage key encryption process for State, clinic and retail equipment.</p>	<p>Uses PIN security, encrypted for transmission and checked at host.</p> <p>PIN can be selected and changed remotely using a telephonic interface.</p> <p>State agency must manage key encryption process for State, clinic and retail equipment where an in-house model is used.</p>
Settlement	<p>Claim files are uploaded each day to a central server where they are processed, reconciled, and the vendor reimbursement is generated. Not to exceed (NTE) exceptions may be applied during this process.</p> <p>Settlement generally occurs within one or two days, but only for those transactions that are successfully uploaded.</p> <p>Settlement is generally deposited to each store's bank account.</p>	<p>Settlement is calculated as each transaction is processed.</p> <p>Based on a system end-of-day process, vendors may be reimbursed electronically the next business day for transactions approved prior to the daily cut-off.</p> <p>The system may make use of intermediary processors to effect settlement which may provide vendors with a combined (WIC plus other tender types) settlement. This may fit in better with how each vendor does business.</p>

<i>Exhibit E – 1: Offline / Online EBT Comparison</i>		
System Area	Offline	Online
Reconciliation	<p>A reconciliation file documenting the disposition and settlement amount for each individual claim is returned to the vendor shortly after receipt of the claim file.</p> <p>Chain stores will require processes to manage multiple reconciliation files for their many stores.</p> <p>If the chain is operating in multiple States, it will be receiving reconciliation data from multiple WIC State agencies.</p>	<p>NTE exceptions are calculated real time on each transaction and returned to the vendor as an integral part of the purchase approval message.</p> <p>Reconciliation is between the parties originating and accepting a transaction. Consequently, a vendor may reconcile with its chosen transaction acquirer who in turn will reconcile with the EBT issuer (or maybe a gateway processor).</p> <p>A reconciliation file containing all transactions for a day is made available to the vendor (or the third party processor (TPP) that sent the transaction to the host on a daily basis.</p> <p>Automated reconciliation processes are often available from intermediary processors. Vendors using a TPP may be able to receive a combined (WIC plus other tender types) reconciliation file.</p>
Balance Inquiry	<p>Requires a smartcard reader that can provide the cardholder with a printed list of available benefits.</p> <p>Card must be present to inquire on the balance.</p>	<p>Can be provided over the phone, but because of the complexity of WIC benefits, a printed account summary, from a POS device or Internet connection, could also be used.</p> <p>Card does not have to be present to inquire on the balance but the card number and PIN are generally required.</p>

<i>Exhibit E – 1: Offline / Online EBT Comparison</i>		
System Area	Offline	Online
Audit Trail	Audit trail of redemption activity is maintained at vendor location until a batch upload is completed.	Audit trail of redemption activity is maintained at the host processor at the time of purchase.
Customer Service	Central help desk cannot provide current account balance or card status information. This requires presence of card. Transaction history is only available for those transactions that have been settled.	Current account balance and card status can be available from central help desk. Up to the minute transaction histories are possible.
Infrastructure	Smart card standards are still evolving. A change in card capabilities may lead to significant reprogramming of the devices that interface with the card. Smart card technology is not widespread in U.S. vendor locations, but it is growing outside the U.S. Use of this technology is new in most retail environments and requires technology integration and vendor training.	Magnetic stripe card standards and technology have been in place for 30 years and are not likely to change significantly. Magnetic stripe technology is widely used in retail locations. Implementation of WIC using this approach requires significant upgrades in store capabilities. Standard operating rules are yet to be defined that provide consistent security and error resolution processes.
UPC	Database of WIC approved UPCs must be downloaded to vendors on a regular basis. The process for adding new codes is complex and tables may not be current at each site if downloads do not take place regularly.	While it is possible for UPC checking to be performed at the central site, online systems generally, for transaction efficiency, follow the offline model of downloading the UPC tables to the vendor location.

<i>Exhibit E – 1: Offline / Online EBT Comparison</i>		
System Area	Offline	Online
Backup	<p>It is the vendor’s responsibility to securely backup transaction data.</p> <p>Any data lost prior to uploading to the central site is at vendor risk.</p>	<p>The central site creates a backup of all data at the time of purchase thus assuring vendors of accurate and complete settlement.</p>
Disputes	<p>Vendors and cardholders may dispute specific transactions. The proof of the transaction is on the vendor system (or the card, depending on design).</p>	<p>Once a transaction is approved by the central system, proof exists that the transaction took place and the vendor is assured of settlement.</p>

E.2.3 Implementation Approaches

There are two general models for how State agencies have implemented their processing solution. The first model is an ‘in-house’ processing solution wherein *the EBT System* is operated by the State agency; the functionality could even be imbedded directly within the WIC IS. The alternative model is to ‘outsource’ processing wherein *the EBT system* is developed and operated by a contracted EBT processor that provides the full set of WIC EBT functionality. Both approaches have been approved by FNS and have provided viable working solutions.

E.2.3.1 In-house

The first thing to consider in selecting this implementation approach is the type of WIC EBT technology that will be operated in-house. Both online and offline solutions may be operated in-house. However, operating an offline solution is less demanding than operating an online solution even though the functions provided are essentially identical. The difference is in telecommunications and service levels.

An offline solution interacts with the food retail vendors in a batch mode generally once per day. If a batch transmission fails, it is simply retried until it is successful. Disruptions of telecommunications do not interfere with benefit purchases because the transaction does not need to interact with the EBT host for approval.

By contrast, an online in-house EBT system places higher demands on a State agency's processing capabilities than the in-house offline model. The online EBT host system must be available real time 7x24 to respond to and approve on-demand WIC redemption transactions. This includes weekend and evening hours which are not normally supported by WIC State agencies. High reliability, throughput, response time and transaction integrity are critical factors. Even short failures of a few minutes disrupt purchases in multiple stores and prevent WIC participants from buying their WIC foods. A disruption may also affect non-WIC shoppers.

As an in-house service provider, either offline or online, the agency becomes the solution integrator. The State agency must provide the additional functions such as project management, vendor equipment enabling, training, network management, settlement and reconciliation, and possibly customer service. Software development and maintenance are also functions that must be supported by the State agency, often with different technology than is supported for paper benefit delivery systems. Of course, any of these functions can be staffed internally or they may be outsourced, depending on the State agency's capabilities.

A positive point about this type of solution is that the State agency tends to own the software and infrastructure and is essentially in control of its own operations. If the State agency selectively outsources specific sub-functions, it has flexibility in choosing a vendor that is well respected for providing that specific service as opposed to being an EBT generalist.

In-house solutions are currently operational in several states. However, in considering this type of EBT solution, a State agency should carefully assess its technology and service capabilities and evaluate its ability to support the solution cost efficiently. The State agency should also assess its capability to update technology regularly to avoid use of obsolete software and hardware.

E.2.3.2 Outsourced

There presently are several vendors that offer a full service WIC EBT solution. With the exception of some project management and oversight, these vendors will provide the processing capabilities, networking, vendor equipment enablement, and all of the additional services required by a State agency. This is generally done on a fee for service basis, usually on a monthly cost-per-case-month price, such that the monthly bill for WIC EBT rises and falls with participation. Sometimes there are upfront design, development and implementation costs, especially if a State agency is requiring a highly unique solution.

A State agency typically procures these services using a competitive procurement strategy such as a Request for Offers (RFO) or Request for Proposals (RFP) in which they stipulate the set of functionality and services to be provided. It is also common to define expected service level agreements (SLAs). Generally, a contract is awarded to the successful bidder for a period of five to seven years which allows for the vendor and WIC Agency to obtain a good return on investment for their implementation costs. Under this approach, the agency is buying a service and not any specific software or processing capacity. The EBT system is owned by the EBT processor, not the State agency. Thus, although some software is customized to meet a State agency's requirements, it is often incremental to existing commercial products and of limited use outside the specific commercial product.

By using this strategy, a State agency is hiring an experienced company with qualified staff and a proven solution for WIC EBT. It usually provides a shorter timeline to market and a lower risk approach. There is accountability that can be leveraged against an external vendor that is not possible when a service is provided in-house. The State agency may receive the benefit of technology upgrades that may be done without additional cost during the contract period as well. However, when operating in a shared environment (i.e. core software and processing systems serve the needs of multiple States), which is common for these solutions, there may be some delays (and added costs) in implementing system enhancements.

There is also a requirement to replace the solution as contracts expire. A reprocurement is expensive and requires significant lead time to complete, but the State agency is likely to receive technology and service upgrades through this process. Note that an in-house solution also requires enhancements and upgrades, but this is done on the State's schedule. Although FNS is working to achieve some standardization in interface specifications, another consideration is that if a State agency changes its EBT vendor through a reprocurement, the State agency's WIC IS may require modifications to accommodate a new EBT contractor's interface requirements. A standardized MIS-to-EBT interface is being examined by FNS with the intent to minimize the need for major WIC IS modification when a new EBT system is initially procured or re-procured.

E.2.4 Procurement Strategies

A State agency may use a competitive procurement strategy such as an RFP or an RFO to procure WIC EBT services as described above. When applying this strategy, a State agency can require any set of functionality,

services, performance standards, and pricing structure that it wants. However, if a State agency deviates too far from the mainstream, the result will be higher pricing or a lack of responses from perspective bidders.

An alternative is to transfer a proven public domain or licensed WIC EBT software solution from another State agency. There are both offline and online solutions that may be procured in this manner. A State agency may elect to operate the solution itself or to outsource the operation and support of software that it owns to a third party. Certainly, under this model, each of the ancillary services necessary to bring EBT to the Program are candidates for the same type of analysis; operate internally or outsource. Thorough documentation of the EBT system is key to a successful transfer of a system available in the public domain.

E.2.5 Vendor Enabling

WIC depends on its authorized vendors to provide WIC food benefits to participants. They are an integral part of program delivery. When moving to EBT, these vendors must make changes to accept and process WIC redemption transactions electronically. The aim, to the extent possible, is to leverage existing electronic payment system technology to accommodate WIC in the checkout lane.

However, as described earlier, a WIC redemption transaction is significantly different from a normal dollar-based payment transaction such as SNAP benefit redemption. It requires upgrades to the in-store processing software and in some cases additions to the existing in-lane hardware and enhancements by third party transaction acquirers.

It has been demonstrated that the implementation of the needed technology is feasible; it is operational for many vendors located in existing EBT program areas. Enabling vendors requires solutions for several vendor tier groups. Small (e.g., one to three lanes “Mom & Pop”) vendors will have significantly different needs and capabilities than will multi-State chain vendors. However, WIC needs this variety of vendors to support its Program goals in the neighborhoods where the participants live and shop. Consequently, several models for placing WIC EBT technology in the checkout lane have been developed and are described below. At issue is the financial burden to implement and deploy this technology and the impetus to invest in solutions.

The overarching strategy adopted by FNS is to ensure that a vendor (or a payment solution provider) can leverage their investment across multiple WIC State agencies. A major chain vendor such as Kroger or Wal-Mart or

a major payment system vendor such as IBM or NCR is far more willing to invest in solutions that can be used in all States. Regardless of who makes the investment in the solution (FNS, the vendor, or the solution provider), the investment should be made only once. It is up to the State agency considering EBT to structure their project so that existing vendor solutions can be utilized without change.

E.2.5.1 Vendor Cost Benefit Analysis

The WIC Program firmly believes that EBT is a positive benefit for the participant and for program management. However, the stakeholder with the most to gain is believed to be the authorized WIC vendor. It is common to hear that WIC vendors dislike the current paper based redemption systems for being cumbersome, inefficient, and expensive to operate. EBT solves some of these problems. A clear message heard in existing WIC EBT program areas is that, no matter what issues may exist with EBT, food retail vendors do not want to return to paper WIC food instrument processing.

Besides providing a smoother checkout lane flow and a more seamless settlement and reconciliation process, WIC EBT offers financial incentives to the vendor as well. Following are the most significant areas where this is obvious. Clearly, the numbers provided are based on a fairly small sample and do not globally represent impact to all vendors. However, they do provide some insight to allow the stakeholders to perform their own analysis and planning.

Time in the Checkout Lane

Under a paper system, during the checkout process, the cashier is required to:

- Have a knowledge of each WIC eligible item;
- Validate that each item presented for WIC redemption is listed in the correct quantity on one (of several) WIC food instruments that are offered for payment;
- Validate that the “valid through” dates on each food instrument are appropriate to the current date and time;
- Record the actual purchase amount (less any discounts) on each food instrument;
- Validate the shopper’s identification and secure a valid signature on each food instrument.

The EBT system automates all of this with a card read / swipe, PIN entry, and UPC scan. EBT project evaluations show that a WIC EBT transaction reduces checkout time significantly. In addition to this reduction, the real benefit is the improved checkout speed which is a major vendor concern that affects WIC and non-WIC customers.

Training Cashiers to Handle WIC Transactions

WIC redemption is complex. It requires a cashier to have an understanding of the requirements of a WIC transaction and a working knowledge of WIC authorized items, and is made even more complex by the “lowest cost” purchase requirement on some items required by some State agencies. Vendors invest heavily in training cashiers to accept WIC redemptions to ensure they comply with State agency policies. The price for not providing this training may be increased by in-lane time, transaction errors, possible rejections, and possible sanctions. In some State agencies, this also translates into union issues when cashiers are reprimanded or terminated for improperly handling WIC transactions.

EBT greatly reduces the need for specialized WIC training. EBT project evaluations have shown a reduction in cashier training time (as much as 307 minutes on average in one State), which represents a real savings to the vendor.

Check Processing Fees

EBT does everything electronically – no more paper. Vendors are relieved of the burden of collecting, sorting, stamping, and reconciling thousands of paper food instruments. In State agencies that use paper checks, there are also no more bank fees for processing checks. Banks generally charge their large customers 5¢ to 15¢ for every check deposited. For smaller customers, that number is higher. Aside from direct bank fees, EBT also removes the charges for rejected checks and back office costs for managing and reconciling these items.

A recent Federal Reserve report estimates the cost to a merchant to accept a single “verified” commercial check is close to 45¢. Using these estimates, a WIC redemption, which often consists of two or three separate checks, can be replaced by a single EBT transaction at a possible savings of \$1.00 or more.

Rejected Checks

A WIC check can be rejected for any number of reasons, including invalid dates, missing signatures, missing vendor stamps, and altered data. In some State agencies, checks that are greater than the not-to-exceed amount

are also rejected. Limited analysis suggests that approximately ½ of one percent of the checks presented for redemption are rejected. This represents a potential cost to the retailer that may include:

- The value of the check,
- Any “bad check” fees that may be imposed by the retailer’s bank, and
- Staff time to research and process rejections.

With EBT there are no rejected checks and resulting loss to the vendor.

E.2.5.2 Standardization of Requirements

A key FNS objective is to make WIC EBT implementation for vendors seamless across WIC State agencies. This is in keeping with the philosophy that a solution should only have to be built once. It is unreasonable to expect a vendor that operates within the jurisdiction of multiple WIC State agencies to process WIC transactions uniquely for each. An analogy from the WIC check environment is the standardized placement of MICR encoding on the check to facilitate processing through commercial banks.

To this end, FNS has completed work with its State agency counterparts and other vested stakeholders to build:

- A common set of message specifications (X9.93) for transporting WIC purchase requests across telecommunications networks.
- A common set of in-store processing rules that are as identical as is possible for all WIC State agencies, regardless of online or offline implementations.
- A standard set of file formats to ensure daily redemption information and reconciliation data is the same regardless of State agency.

Message Standards

Message standards for the communication of WIC data between vendor / third parties and EBT processing hosts or settlement servers and for interaction with WIC smartcards have been developed and agreed upon through an arduous process involving many industry participants. This was accomplished under the control and guidance of the American National Standards Institute (ANSI) as defined by the Accredited Standards Committee X9 (ASC X9, Inc.). All WIC EBT systems will

make use of these standards. These documents may be procured at the ANSI website: webstore.ansi.org, keyword search “X9.93”.

ANSI X9.93 Financial Transaction Messages

Part 1: Messages - Provides all parties involved in EBT transactions with technical specifications for exchanging financial transaction messages. The document standardizes message formats based on the widely used ISO 8583:1993 financial industry standard for all stakeholders in the industry. The current version, X9.93 2008 is the version FNS recommends all State agencies adopt.

Part 2: Files - This standard provides all parties involved in EBT transactions with technical specifications for exchanging financial transaction files for the WIC Program and the framework for adding other EBT files and detail records in the future. (Note that file formats defined in X9.93 are being adopted for the exchange of UPC information with the National UPC database). The document standardizes file formats and thereby maximizes EBT productivity for all stakeholders in the industry. This standard describes files and records between the acquirer and card issuer or their agents. It specifies file structure, format and content, data elements and values for data elements used in EBT.

The method by which the settlement of funds takes place is not within the scope of this standard. Data representation (e.g. structure, format, length) used in individual systems is subject to the commercial relationships between the parties contracting to each system. The file formats required by X9.93 are designed to allow one or more States to exchange WIC purchase information and card status (lost or stolen) details with food vendors who may operate in multiple States. Both sides will build to the common standards once without imposing unique requirements on each other. Implementation in additional WIC State agencies will require no additional software development.

ANSI X9.108 WIC EBT Retailer Interface Standard Financial Transaction Messages

This standard defines a common set of application program interface (API) functions to access the WIC benefits on a smartcard in the vendor environment; a common method (card discovery mechanism) to identify the issuer of the WIC EBT benefits and the WIC EBT scheme present on the smartcard and, an interface to the card reader device that transmits and receives data from the WIC EBT smartcard. In less technical terms, this standard defines specific parameters each State agency must follow in the development of their smartcard interface document. Following this standard, each State agency develops a document for their authorized

vendors to use in programming their store systems to accept the State agency's specific smartcard. Thus, the purpose of the standard is to alleviate the burden on vendors who have chain stores authorized in multiple States, and therefore must be able to accept smartcards from multiple State agencies that may have different smartcard operating capabilities and file formats. While it does not eliminate all programming on the part of the vendor, standardization does promote some efficiencies. This standard does not define how WIC EBT benefits are arranged on the card, the movement of security data or key management.

In-store Processing Requirements / Rules

In-store WIC processing is supported by a set of business rules that define WIC's expectations for in-store WIC redemption transaction processing. The rules are far ranging and address topics like product pricing and discounts or the proper use of the APL. They describe both required and optional features. Regardless of the WIC solution implemented in a vendor location, it is expected that these rules will be addressed. Two models for in-store processing rules are available for reference:

Kentucky developed a set of rules for its online WIC EBT initiative. The file "Kentucky WIC EBT Processing Rules for Retail Systems" is available on the project website at www.onlinewicebt.com.

Texas developed a set of rules for its offline WIC EBT system. Please contact the State of Texas WIC State Agency for more information.

E.2.5.3 In-lane WIC EBT Equipment Processing Models

Minimally, to do WIC EBT redemption processing in the checkout lane, the following equipment is required:

- POS device with processing capabilities, key pad, display, card reader / swipe
- PIN pad
- Scanner
- Receipt printer
- Telecommunications
- Possibly a scale (if random weight items are included in the program)

There are several ways that the technology can be implemented: stand beside solutions or integrated solutions. Business rule documents for the Texas / New Mexico and Kentucky systems can be obtained by contacting these State agencies directly.

Stand-Beside Solution

Generally, a stand beside solution is one that is separate from any other payment device that is present in the checkout lane. It does not interface with a cash drawer, a store's electronic item/pricing file, or its automated inventory systems. The stand beside solution must store a copy of the APL (and hot card list for an offline solution). This type of solution will work satisfactorily in a small one or two lane store that does not have sophisticated electronic transaction processing capabilities. In fact, it is likely these stores are already using a similar stand beside device for their SNAP EBT processing.

Using a stand beside solution requires that the WIC shopper manually separate all WIC items from non-WIC items and perform a separate WIC purchase transaction. The stand beside solution comes in two general configurations.

WIC Only Stand Beside

This is a purpose-built electronic transaction processing system that will accommodate only a WIC transaction. In the likely event that the store is also participating in SNAP, two government-installed POS solutions may be required in the checkout lane. This is not a particularly good solution because of the lane space and complexity of using dual devices to complete a transaction. If the store is also doing commercial credit and debit, it may have a third system. A vendor might accept this checkout lane scenario as a means to avoid fees on government sponsored transactions that can be sent directly to the government's processing agent (note: offline WIC transactions are batched, do not flow over commercial networks, and generally incur no fees). It might also be an expedient because of contractual and organizational issues between WIC and SNAP.

WIC programs may choose to deploy, or have deployed on their behalf, WIC stand beside solutions to enable small vendors a no cost solution or to facilitate a larger vendor's participation on a temporary basis until they can implement a more robust solution in their store.

Multi-tender Stand Beside

This is a POS solution that will support multiple payment (tender) types including WIC, SNAP, credit, debit and possibly others. A multi-tender

type solution is valid for both online and offline WIC technology models. A multi-tender stand-beside solution would replace separate devices described above that support only WIC EBT, SNAP/cash EBT or credit. This solution will work well in small stores that typically do not have sophisticated payment systems. However, this is still a stand beside solution because it is not interfaced with the store's cash register and other systems. It only handles payment transaction processing, albeit for multiple payment types. Generally, all transactions from a multi-tender device go through a commercial transaction acquirer and are routed from there to the appropriate processor for approval. Fees may apply to these transactions, including WIC (for an online model).

Consider a mid to large grocery store that has a fully automated Electronic Cash Register (ECR) payment solution. For these types of stores, a stand beside will work, but may not be a good solution. There are two primary issues. First, the stand-beside POS will occupy valuable space in the checkout lane and will require extensive cashier training in its use. Secondly, for a WIC purchase, each product will have to be scanned twice, once for WIC and once into the store's ECR to feed the accounting system, price file, and inventory management subsystems. The price of each item, provided automatically by the ECR system, will have to be manually keyed into the WIC capable POS. In general, everything has to be done twice, and the manual key entry is error prone.

Integrated Solution

This is the optimal solution for vendors that have sophisticated ECR types of payment systems. WIC redemption processing is integrated with all other tender types as a part of the total payment processing solution for the store. The existing in-lane hardware infrastructure (POS, printer, scanner) can be used to serve the needs of WIC processing along with all other supported tender types. The result is a more seamless flow through the checkout lane. It facilitates the concept of mixed basket shopping (i.e., all WIC and non-WIC items scanned without separating WIC items).

Large vendors with chain stores typically have a single payment platform implemented in all of their stores. Under this scenario, the modifications to the software can be made once and implemented in all of the chain's stores, a very cost effective solution. However, in some cases, especially where mergers or acquisitions have occurred, a chain will not necessarily have a standardized operating platform. This makes the approach more complex and expensive.

FNS and WIC State agencies implementing EBT have been aggressive in working with vendors to implement integrated solutions. It provides the

best possible in-store experience. It is anticipated that as WIC EBT spreads across the country, chain stores that implemented EBT because of their involvement with the early projects will already be enabled for WIC EBT in any new jurisdiction. The solution will be portable, greatly reducing time and cost for implementation in these new geographic areas, provided State agencies implement standard EBT systems.

E.2.5.4 Commercial Model

Lessons learned from the early WIC EBT implementations include a preference to let the commercial sector offer viable options for retailer equipment. State agencies should seek strategies to limit direct involvement in the retail equipment business. It proved to be expensive to deploy and particularly difficult to support, and became a major distraction from the mainstream business of WIC. However, a reality remains that State agencies must also allow for options that are affordable within their budget, that provide a no cost alternative to the retailer, and that allows them to maintain their implementation schedules.

To this end, FNS and the State agencies that are implementing WIC EBT are also pursuing a strategy of commercialization wherein private sector EBT vendors develop “for sale” payment systems that include WIC as a tender type. These private sector EBT vendors then competitively market their solutions to vendors in need of a WIC solution.

A number of payment system vendors have developed or are developing solutions ranging from simple WIC-only stand beside to multi-tender stand-beside, all the way up to complete ECRs. It is hoped that in a few years, the commercial market will be ripe with solutions and WIC EBT will be as common as SNAP is now as a tender type in commercially available grocer payment systems.

In support of this initiative, FNS and the State agencies are providing specifications for in-lane WIC redemption transactions. These include the business rules discussed above along with technical message specifications and the other details necessary to implement WIC EBT. Once a solution is completed, the sponsoring State agency, with support from FNS, will go through a rigorous certification process to ensure that the solution does indeed comply with the standards, rules and specifications for WIC redemption. The State agency will then add the particular product to its list of certified systems that it makes available to all of its authorized retail food vendors.

Any subsequent purchase of one of these solutions is a business relationship between the retail food vendor and the product manufacturer.

WIC itself is not involved in the transaction or any subsequent maintenance or support of the product.

Based on this commercial model, it becomes apparent that all State agencies moving to EBT should ensure that their requirements for redemption transaction processing conform to what already exists. The intent is that commercial model solutions developed on behalf of one WIC State agency will be portable across all 90 WIC State agencies. This is only possible with an agreed upon set of standards and specifications.

E.2.5.5 Certifying Retailers

It is the WIC State agency's responsibility to validate that its required business rules and processes are properly implemented in electronic WIC redemption systems. This includes verifying that the in-store processing enforces WIC requirements and confirming that the messages transmitted to the WIC host processor conform to the approved technical specifications.

There are several layers to these certifications. In the pilot projects, the State agency and FNS' technical contractor have been heavily involved in working with each store to validate its WIC solution. However, this is a very time consuming and expensive process for both WIC and the vendor. Some potential alternatives that could lessen this burden have been identified and are listed as follows:

- Require full certification if the solution is a brand new implementation of WIC EBT.
- Require only a cursory (if any) certification if the solution is a previously approved "commercial model" system, as these systems have already undergone a rigorous certification process to become approved.
- If the solution is for an integrated chain store, then one certification of the chain's WIC implementation should be considered sufficient, as it is not necessary to certify every store that is installing that solution. A self-certification process, wherein WIC provides the test scripts to the store and the vendor exercises them internally and provides WIC with a document attesting to certification could also be considered sufficient.
- In an online environment, where many vendors use the services of third parties who in turn might use the services of a gateway provider, transaction certification could be delegated downstream. For example, the host processor could certify the transaction

gateway. The gateway could in turn certify all third party processors (TPPs). Each TPP could certify all stores for which it is acquiring transactions. However, even in this environment, WIC may want to actually validate the in-store processing that is taking place at least upon initial implementation.

- Require recertification if a system undergoes a significant modification. The scope of the recertification depends on the extent of the changes and the perceived risk.

Regardless of the process, it is WIC's responsibility to ensure that a test EBT processing platform and environment is available to support certifications. Test cards and accounts must also be available along with support services. Over time, WIC may have to develop a standard set of test scripts and acceptance criteria. Some test scripts may already exist and may be obtained from existing WIC EBT State agencies.

E.3 EBT System Functions

The following sections describe the functional requirements needed by *an EBT system* to support all of the activities related to EBT account, benefit and card maintenance in the EBT system; retail and administrative transaction processing; and financial reconciliation and reporting.

Several of the functions described are related to or are the counterpart to WIC EBT-readiness functions such as Establish EBT Account function in which the IS obtains household demographic information and transmits it to *the EBT system* where it will set up the account and apply the demographic information transmitted by the IS.

To accommodate situations where a State agency has a WIC IS that is unable to transmit the necessary information to *the EBT system*, the functional descriptions provided in this document include the ability to input this information directly into *the EBT system* through a stand-beside user interface. While a stand-beside user interface should be available, it should not be the primary means of data entry into *the EBT system* except for actions like financial adjustments that are not supported in the IS. Ideally, if the data exists in the IS then it should be transmitted directly from the IS to *the EBT system* so that dual entry can be avoided.

The information in this section was written to be technology neutral. There are, however, instances where the technology drives the functionality. In these cases, the functional description will be prefaced with “Online” and “Offline.”

E.3.1 System Function Overview

The EBT system includes the following functional areas:

- Account Maintenance
- Benefit Maintenance
- Card Management
- Transaction Processing
- Settlement
- Reconciliation
- Vendor Management

- UPC and “Not To Exceed” Management
- Reporting

The following diagram provides an overview of *the EBT system* functions.

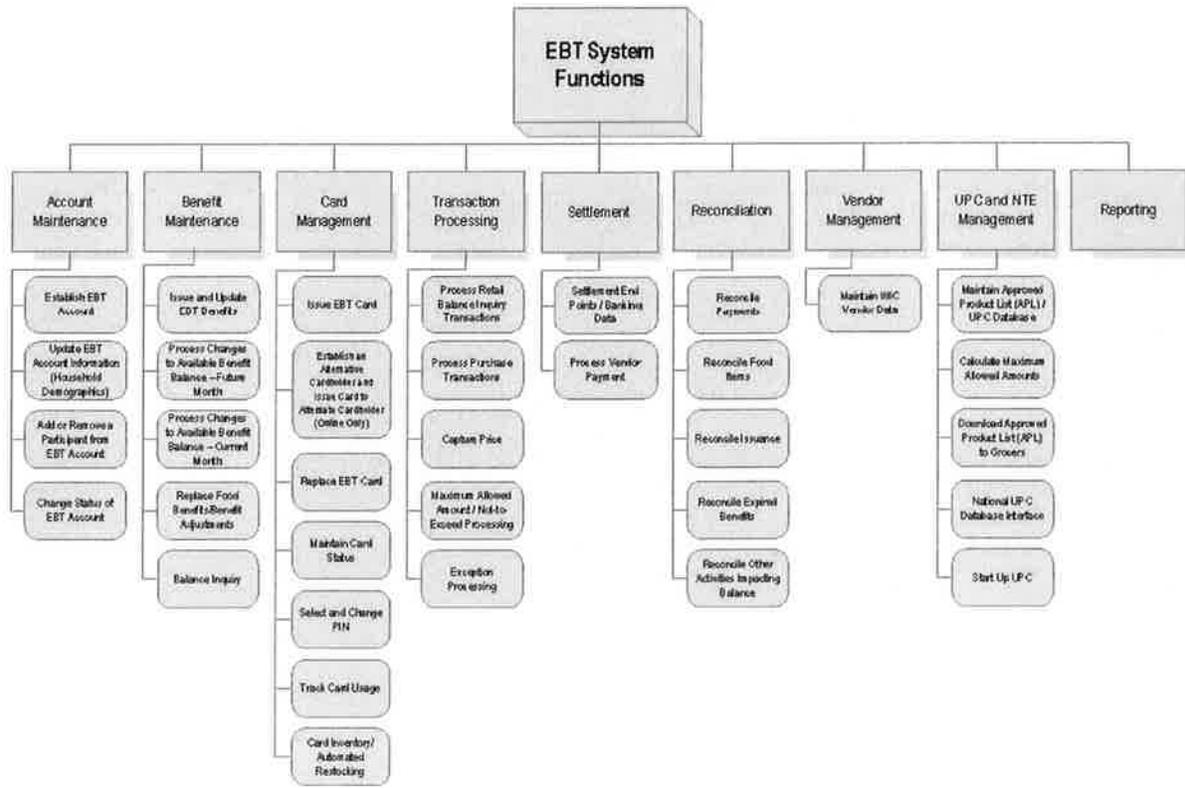


Exhibit E - 2: Functional Decomposition Diagram - EBT System Functions

E.3.2 Account Maintenance

Account maintenance functions are related to setting up and maintaining account and account information in the EBT system. Accounts are established by household / family.

E.3.2.1 Establish EBT Account

The EBT system must be able to accept information from the WIC IS or through a stand-beside user interface to the EBT host to establish an EBT account for a household / family. This includes accepting and posting to the account, data associated with the household / family such as household ID, primary and secondary (proxy) cardholders, address information, and date of birth.

E.3.2.2 Update EBT Account Information (Household Demographics)

The EBT system must be able to accept information from the WIC IS or through a stand beside user interface to the EBT host to update the household demographics associated with an account. This functionality typically includes the ability to:

- Update the head of household/ primary cardholder information
- Update address information

Implementation Approach

- ▶ As part of this function, *the EBT system* could automatically disable the card associated with the previous head of household / primary cardholder when a new head of household / primary is added to the account.

E.3.2.3 Add or Remove a Participant from EBT Account

Some State agencies may want to maintain information on the individual household participants in *the EBT system*. In these cases, *the EBT system* should be able to accept information from the WIC IS or through a stand beside user interface to the EBT host to add, update and remove a participant and participant data from the EBT account.

E.3.2.4 Change Status of EBT Account

The EBT system must be able to accept information from the WIC IS or through a stand-beside user interface to change the status of an account. An account status change might occur, for example, if a household was no longer participating in the WIC program due to an expired certification or disqualification.

Implementation Approach

- ▶ Some State agencies may choose to only disable the card access rather than the entire account

E.3.3 Benefit Maintenance

Benefit maintenance functions are the functions of *the EBT system* associated with posting benefits to accounts and maintaining balance information.

E.3.3.1 Issue and Update EBT Benefits

The EBT system must be able to accept information from the WIC IS or through a stand beside user interface to issue current and future months' benefits to an EBT account and/or load benefits to smartcard.

E.3.3.2 Process Changes to Available Benefit Balance – Future Month

The EBT system must be able to accept information from the WIC IS or through a stand beside user interface to make changes to benefits that are available in the current month and future months. This includes the ability to completely void an issuance or make updates (debits or credits) to an issuance.

Implementation Approach

- ▶ This functionality is typically used when there are food package changes, for example if there is a formula change for an infant that has been issued multiple months of benefits.
- ▶ This function can also be used when a participant is moved into or out of a household and benefits must be moved from the old household account and added to the new household account.

E.3.3.3 Process Changes to Available Benefit Balance – Current Month

The EBT system must be able to accept information from the WIC IS or through a stand beside user interface to make changes to benefits that are currently available. This is similar to updating future months' benefits, but the system must take into account benefits that may already have been spent by the cardholder. Updates to current month's benefits include debits or credits to the benefit balance.

Implementation Approach

- ▶ This functionality is typically used when there are food package changes; for example if there is a formula change for an infant that has been issued multiple months of benefits.
- ▶ This function can also be used when a participant is moved into or out of a household and benefits must be moved from the old household account and added to the new household account.

E.3.3.4 Replace Food Benefits / Benefit Adjustments

In the event that an error occurs as part of a benefit redemption transaction, *the EBT system* should have the capability to resolve the error. *The EBT system* should be able to replace benefits that may have been erroneously debited from an account. *The EBT system* should also be able to make adjustments to accounts / card balances when an account / card was not debited correctly when food was purchased from an authorized vendor resulting in the vendor not receiving payment for the items purchased.

Implementation Approach

- ▶ Although an *EBT system* may have the functionality to make balance adjustments, the WIC State agency should have policies and procedures in place for handling these replacement and adjustment situations.

E.3.3.5 Balance Inquiry

The EBT system must be able to provide information on the amount and status of currently available benefits in the EBT account / card to the WIC IS or through a stand-beside user interface. Note that this is not a retail balance inquiry, but a communication between the WIC IS and *the EBT system* or access to balance information for display, printing or other use by the WIC IS.

E.3.4 Card Management

Card management functions are the functions of *the EBT system* associated with issuing, replacing, and maintaining information on EBT cards. *The EBT system* may be the database of record for card information; however, some State agencies capture card information in the WIC IS.

E.3.4.1 Issue EBT Card

A general business rule is that a card is issued to an individual (typically the head of household) as the “cardholder.”

Offline: The action of card issuance involves activating a new card and loading with account information, currently available benefits and future benefits (this may also be a function of the WIC IS). *The EBT System* must be able to accept information on the status of the card and benefits issued.

Online: *The EBT system* host must be able to accept information from the WIC IS or through a stand beside user interface to link an EBT card with a household account.

E.3.4.2 Establish an Alternative Cardholder and Issue Card to Alternate Cardholder (Online Only)

Online systems allow for WIC State agencies to issue more than one card per account because benefits are maintained on the host and not the card. The additional card can be issued to a proxy or a second shopper associated with the household. For State agencies that want the ability to issue multiple cards per household, the EBT system must be able to accept information from the WIC IS or through a stand beside user interface to set up an alternate cardholder in the household account and assign a card to the alternate cardholder.

E.3.4.3 Replace EBT Card

The EBT system must be able to accept information from the WIC IS or through a stand beside user interface to disable an existing EBT card and link a replacement EBT card to the account.

Implementation Approach

- ▶ Typically, the replacement of a card for a household (offline) or an individual cardholder (online) triggers the deactivation of the card previously associated with that household or cardholder.

E.3.4.4 Maintain Card Status

The EBT system must be able to maintain information on the status of all cards. In addition, the EBT system must be able to accept information from the WIC IS or through a stand-beside user interface to make updates to the card status. Status changes are used to activate a card for use or deactivate or “hot card” a card so that it can no longer be used. In offline systems, cards that can no longer be used must be transmitted to retailers via the Hot Card list. In online systems, card status is maintained by the host.

Implementation Approach

- ▶ In offline systems, State agencies may want the ability to reactivate a “hot carded” card. This functionality is used when a lost card is found and the cardholder would like to use their current card rather than replace it.
- ▶ In online systems, the general rule is that once an active card has been disabled, it can not be reactivated.

E.3.4.5 Select and Change PIN

The cardholder uses a PIN to confirm their identity when using their EBT card. *The EBT system* must also be able to accept information from the WIC IS or through a stand-beside user interface to change a PIN for a card that has been issued. All PINs must be encrypted.

Offline: The PIN is selected by the cardholder, encrypted and applied to the chip on the card (this may also be a function of the WIC IS).

Online: The EBT host must be able to accept information from the WIC IS or through a stand beside user interface to establish a PIN for a card that has been issued.

E.3.4.6 Track Card Usage

The EBT system must be able to track where and how each card in the system has been used.

E.3.4.7 Card Inventory/ Automated Restocking

The EBT system should be able to maintain card inventory information by card issuance location. This allows the State and local agency to monitor card stock inventories. The system should also support the ability to monitor card stock inventories against preset trigger points at which cards will automatically be reordered.

E.3.5 Transaction Processing

Transaction processing are the functions of the EBT system associated with authorized WIC vendor transactions. This functionality is accomplished differently in online and offline systems, but the specifics related to each technology are not addressed as part of the functional description. Where there are significant differences, information has been provided as implementation approaches.

E.3.5.1 Process Retail Balance Inquiry Transactions

The EBT system must be able to acquire, validate, and process balance inquiry transactions.

Implementation Approach

- ▶ In an offline system, the transaction processing occurs in the retail system such as an ECR or POS system. The retail system reads the smart card to perform the transaction. The retail system confirms that the card is valid and verifies the PIN. The balance is captured from the card and returned to the retail system for printing or display.
- ▶ In an online system, the transaction processing occurs at the host. The retail system transmits a message to the host to validate the card and PIN and then accesses the account balance. The balance is returned to the retail system for printing or display.

E.3.5.2 Process Purchase Transactions

The EBT system must be able to acquire, validate, and process purchase transaction information originating from authorized vendor locations.

Implementation Approach

- ▶ In an offline system, the transaction processing occurs in the vendor system. The vendor system communicates with the smartcard to perform the transaction in-lane. The vendor system reads the smartcard to obtain the initial balance and verifies the PIN. As items are scanned through the vendor system they are compared first to the APL maintained in the vendor system and then against the category / subcategory balance on the card. If items and quantities are approved, they will be deducted from the balance and the balance maintained on the card will be updated. The vendor system will write the purchase details to the daily detail claim file and transmit the full claim file to the host system as part of its end of day processing routine.
- ▶ In an online system, the transaction processing is split between the EBT host and vendor system. The vendor system transmits a message to the host to validate the card and PIN and then accesses the account balance to obtain the category / subcategory balances. As items are scanned through the vendor system, they are compared to the APL maintained in the vendor system and then against the account balance that has been captured by the vendor system. Information for items that are expected to be approved (UPCs, quantity and price) is sent to the host in a final purchase transaction. If items are approved by the EBT host, the EBT host balance will be updated and an approval message sent back to the store lane.

E.3.5.3 Capture Price

As part of a purchase transaction, the vendor system will transmit the shelf price to *the EBT system*. *The EBT system* must be able to capture and maintain this information.

E.3.5.4 Maximum Allowed Amount / Not-to-Exceed Processing

The EBT system must be able to identify items in which the price submitted by the vendor system exceeds the established maximum price for a vendor peer group. If the item price requested exceeds the maximum amount, the system can automatically adjust the amount paid for the item down to the maximum price. As an alternative, the system could pay the price submitted, but flag the item for the State agency to follow up with the vendor at a future date (this is referred to as a post payment system). FNS does not recommend this approach since the newer designs can support immediate adjustments or edits and that reduces workload for both State agency and vendor staff.

E.3.5.5 Exception Processing

The State agencies that have chosen to implement an online EBT system must also be able to process exception transactions. These are transactions

in addition to the standard balance inquiry and purchase transactions, and include voids, reversals, vouchers, and store and forward transactions.

- **Void (online only):** This transaction is used to cancel a transaction that has been processed. It is often set up so that only the most recent transaction can be voided (also called a Void Last). The Void is different from a reversal in that the Void is always human initiated.
- **Reversal (online only):** A reversal is a system generated cancellation of a transaction. A reversal can occur when a transaction has been initiated, but the host or vendor system does not receive all of the required information to complete the transaction. When this happens any changes made to the account are reversed.
- **Voucher Processing:** Some State agencies have selected to implement a paper voucher process for the purchase of a limited amount of items in the event that *the EBT system* is inoperable at a vendor location. *The EBT system* must be able to process vouchers and update the account balance.
 - For online technologies, the vendor calls a customer service line to receive approval and place a hold on the benefits being purchased. When *the EBT system* is available again, the vendor performs a voucher clear transaction to complete the process.
 - For offline, because the card holding the account balance is in the store, there is a much less likely chance that the transaction can not be completed normally thus reducing the need for a voucher transaction. A voucher could be used following the same process as described for online, in which a hold is placed on the available balance, however since the host balance and card balance may not be synchronized and there may be unprocessed claims against the account, voucher transactions create a liability risk to the vendor.
- **Store and forward (online only):** This is a type of transaction that can occur when the retail system cannot connect to the EBT host. If a vendor has implemented store and forward, the vendor system can capture the transaction information for submission to the EBT host at a later time. While convenient for the cardholder, the risk is on the vendor if there are insufficient benefits to cover the purchase.

E.3.6 Settlement

Settlement functions are the functions of the EBT system associated with paying vendors for purchases.

E.3.6.1 Settlement End Points / Banking Data

The EBT system should maintain banking information used in processing payments to vendors. What banking data is needed may depend on EBT technology or the use of other parties in the payment process. For example, if all of the vendors connect directly into *the EBT system*, *the EBT system* will need to maintain information for each of the vendors. However a vendor may choose to submit transactions to *the EBT system* using a TPP that also acquires transactions from other stores. *The EBT system* makes one payment to the TPP who in turns distributes the settlement amounts to the various stores for which it acquires. In this case, *the EBT system* only needs to maintain banking information for the TPP and not for the individual stores.

E.3.6.2 Process Vendor Payment

The EBT system must, on a daily basis, be able to determine for each vendor (or settlement end point such as a TPP) the amount of funds that will be transferred based on the transactions that occurred. Although the amount is calculated daily, the actual payment will occur on business days (excluding bank holidays).

E.3.7 Reconciliation

Reconciliation functions are the functions of *the EBT system* associated with balancing benefit issuance, benefit redemption, and vendor payment information.

E.3.7.1 Reconcile Payments

The EBT system must be able to provide information to the State agency to reconcile that what was paid to a vendor (or settlement end point) matches the dollar amount of what was purchased at that vendor location (or processed through a settlement end point).

E.3.7.2 Reconcile Food Items

The EBT system must be able to provide information to the State agency to reconcile food item balances maintained on *the EBT system* to benefit issuances and retail transactions.

E.3.7.3 Reconcile Issuance

The EBT system must be able to provide information to the State agency to reconcile that benefits issued from the WIC IS were properly posted to valid EBT accounts at the household level in aggregate.

E.3.7.4 Reconcile Expired Benefits

The EBT system must be able to provide information to the State agency to reconcile that benefits that have exceeded their last date to spend have been expired from the system.

E.3.7.5 Reconcile Other Activities Impacting Balance

The EBT system must be able to provide information to the State agency to reconcile adjustments for system errors, reversals, erroneous retail settlement data and payments.

E.3.8 Vendor Management

Vendor management functions are the functions of *the EBT system* associated with maintaining information about WIC authorized vendors. The WIC IS is generally the database of record for vendor data; however, *the EBT system* requires a subset of that data to perform transaction processing activities.

E.3.8.1 Maintain WIC Vendor Data

The EBT system must be able to accept information from the WIC IS or through a stand-beside user interface to capture information on authorized vendors. This may include, but is not limited to, vendor name, location, peer group, and vendor ID number.

E.3.9 UPC and “Not To Exceed” Management

E.3.9.1 Maintain Approved Product List (APL) / UPC Database

The EBT system must be able to maintain the list of all of the products that are approved by the State agency for purchase with WIC benefits. This list is also referred to as the UPC database.

Products are identified by the UPC or price look up (PLU) code assigned to the product. APL data can be established in the EBT system through an interface between the WIC IS and the EBT system or through a stand-beside interface into the EBT system.

Implementation Approach

- ▶ Either the WIC IS or EBT system can be the database of record for approved product UPC / PLUs. However, the EBT system is the system that will make the most use of the data.

E.3.9.2 Calculate Maximum Allowed Amounts

The EBT system should have the capability to use redemption information to calculate the Maximum Allowable Amount (Not-To-Exceed price) that is used by *the EBT system* to determine the maximum amount a vendor within a specific peer group can be paid for a WIC approved item.

Implementation Approach

- ▶ The Maximum Allowable Amount (Not-To-Exceed price) can be established by food item (based on a unique UPC) or it can be set for a specific subcategory in which all items in a subcategory are subject to the same maximum price by peer group.

E.3.9.3 Download Approved Product List (APL) to Grocers

The EBT system must be able to create the APL file and transmit the file to authorized WIC vendor systems. The APL is used by the vendor’s system to ensure that only the WIC agency’s approved foods are purchased with WIC benefits. This must follow the X9.93 Part 2 standard.

E.3.9.4 National UPC Database Interface

The EBT system should have an interface to the National UPC (NUPC) database. This interface allows the WIC State agency to download UPC

data that have been added to the NUPC database into the agency's *EBT system*.

The NUPC also allows for State agencies to upload data from the State UPC database. *The EBT system* may have the functionality to perform uploads to the NUPC.

E.3.9.5 Start Up UPC

When a State agency implements an *EBT system*, typically a time consuming aspect of the preparation for implementation is the collection of the UPC information on all State agency approved foods. The NUPC can ease some of this burden, but there may be regional store/chain or dairy specific UPCs that may not exist in the NUPC. *The EBT System* may provide an input mechanism that allows WIC staff to go to WIC vendor locations, scan approved food UPCs, add description, add category / subcategory, add shelf price information, and upload this data into *the EBT system's* UPC database.

E.3.10 Reporting

The EBT System should support reporting in the following main areas:

- Calculate Rebate Amounts
- Food Management / Approved Product List
- Food Cost Management
- Settlement and Reconciliation
- Card Management
- Performance and Operating Metrics
- Fraud / High Risk Vendor Analysis
- Ad Hoc Reporting
- The above list does not exhaust the range of reports that a State agency may find useful.

The EBT system should also support the transfer of data to the WIC IS or a data warehouse for reporting purposes.