Mountain Plains States Consortium
WIC System Project

DETAILED FUNCTIONAL DESIGN DOCUMENT

OP 0 OPERATIONS OVERVIEW

Presented to:

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Document Revisions

Revision Date	Updated By	Requested By	Description of Revision

Table of Contents

1 Introduction

The Operations area is used primarily by Operations (or Financial) Managers at the state or local agency level and Clinic Supervisors at the clinic level. The general purpose of Operations is to provide support to the state or local manager or supervisor in the operations area. This document provides an overview of the screens found in the Operations area.

The functional areas within Operations are either related to inventory or to staff support. Inventory capabilities exist for EBT cards, FI stock, non-serialized inventory and serialized inventory. Staff support capabilities exist related to tracking outreach activity, time study entry and tracking staff areas related to competency or training.

The EBT card inventory screens allow for the individual tracking of all EBT cards. EBT Cards are introduced to the system by blocks (usually shipments) received at the state level. These cards are then shipped to local agencies or clinics which receive them. An EBT Card is ultimately assigned to a family. Anywhere in this process, an EBT card (or a set of them) may be lost, damaged or otherwise rendered unusable, which the system is capable of tracking. Therefore, an EBT Card always has an “owner” as well as a “status”. Owners may be the state, local agency, clinic or WIC family. Status includes “issued”, “active”, “inventory”, and “retired”, as well as some values that can be determined by each state via a code entry (i.e., lost, damaged). An EBT card lookup screen is provided that shows the current status of any EBT card in the system. The assignment of EBT cards to families and viewing of assigned (current and historical) EBT cards and their statuses are found in the Clinic Service DFDDs.

The FI Stock Inventory function allows for the individual tracking of boxes of FI stock. FI stock are introduced to the system by blocks (usually shipments) received at the state level. These boxes are then shipped to local agencies or clinics which receive them. The function supports usage and wastage of FI Stock to manage inventory levels and ordering.

Non-serialized inventory screens support categories (i.e. pamphlets) with item type definition (i.e. particular pamphlet names) and the subsequent tracking of these inventory levels, field orders, centralized fulfillment and field receipt of the items.

Serialized inventory screens support categories (i.e. breastpumps) with item type definition (i.e. breastpumps models) with entry of serialized items and history tracking. Categories (i.e. breastpumps) can be made assignable to participants. These items are available to the Clinic Services area for controlled access for assignment and statuses to the participant. These transactions are included in the history tracking.

Outreach organizations can be defined with subsequent tracking of planned and completed activities. These organizations are available in the Clinic Services area for tracking referrals. Combining these referrals to the costs and effort entered in the activity log allows for outreach success comparison between organizations.

The Staff Competency and Training functions allow staff to track areas regarding their competencies, education, credentials, immunizations, State Sponsored training and Other training. Each grid has specific attributes related to the area.

The Time Study function allows for time studies to be setup for a period (i.e. start and end dates). With the setup of a time study, users can record their activities during this period. Time Study function is Pending ESC Approval / Funding.

Alerts are prevalent throughout the functional areas and are detailed in each of their respective DFDDs. This document discusses how alerts are presented in the aggregate.

2 Navigation Panel

The Navigation Panel contains the Navigation Buttons (stacked starting from the bottom of panel) and the Navigation Tree Structure (top of panel).

2.1 Navigation Button

The Navigation Button labeled “Operations” allows the user to access the operation screens.

When the user clicks on the Operations Navigation Button,

- Navigation Panel contains the Operations tree structure with the branch nodes collapsed. See Navigation Tree Structure section in this document for more details.
- Main Panel contains alerts based on the user’s security roles and level of access. See the Main Panel section in this document for more details.
- Information Panel displays the System tab by default.

2.2 Navigation Tree Structure

The Navigation Tree Structure for the Operations area contains the functions that are described in the accompanying functional DFDDs. Users’ views differ based on their security access profile.

Also, the tree structure can be different based on the whether the system is EBT or FI. This is depicted in the tree structure with ‘EBT Only’ or ‘FI Only’ in parenthesis after the branch or leaf node.

2.2.1 Connected Mode

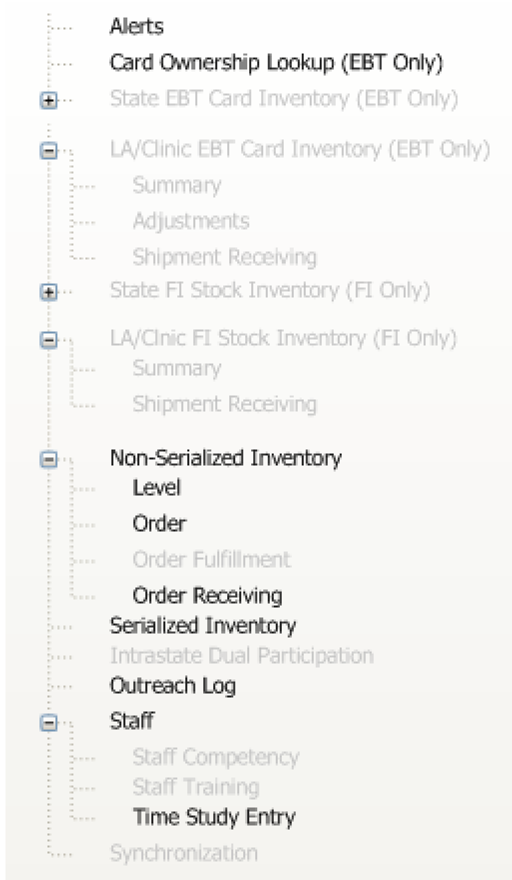
This tree structure shows the maximum possibilities for this functional area for a user in connected mode.

- Alerts
- Card Ownership Lookup (EBT Only)
- State EBT Card Inventory (EBT Only)
  - Summary
  - Adjustments
  - Shipments
- LA/Clinic EBT Card Inventory (EBT Only)
  - Summary
  - Adjustments
  - Shipment Receiving
- State FI Stock Inventory (FI Only)
  - Summary
  - Shipments
- LA/Clinic FI Stock Inventory (FI Only)
  - Summary
  - Shipment Receiving
- Non-Serialized Inventory
  - Level
  - Order
  - Order Fulfillment
  - Order Receiving
- Serialized Inventory
- Intrastate Dual Participation
- Outreach Log
- Staff
  - Staff Competency
  - Staff Training
  - Time Study Entry
- Synchronization

Note: Discussion of Synchronization is found in the Section 7 of this document.

2.2.2 Disconnected Mode

This tree structure shows the maximum possibilities for this functional area for a user in disconnected mode.



Note: Discussion of Synchronization is found in the in Section 7 of this document.

2.3 Saving Work

The Operations area saves units of work at the State EBT Card Inventory, LA/Clinic EBT Card Inventory, State FI Stock Inventory, LA/Clinic FI Stock Inventory, Non-Serialized Inventory, Serialized Inventory, Intrastate Dual Participation, Outreach Log and Staff levels.

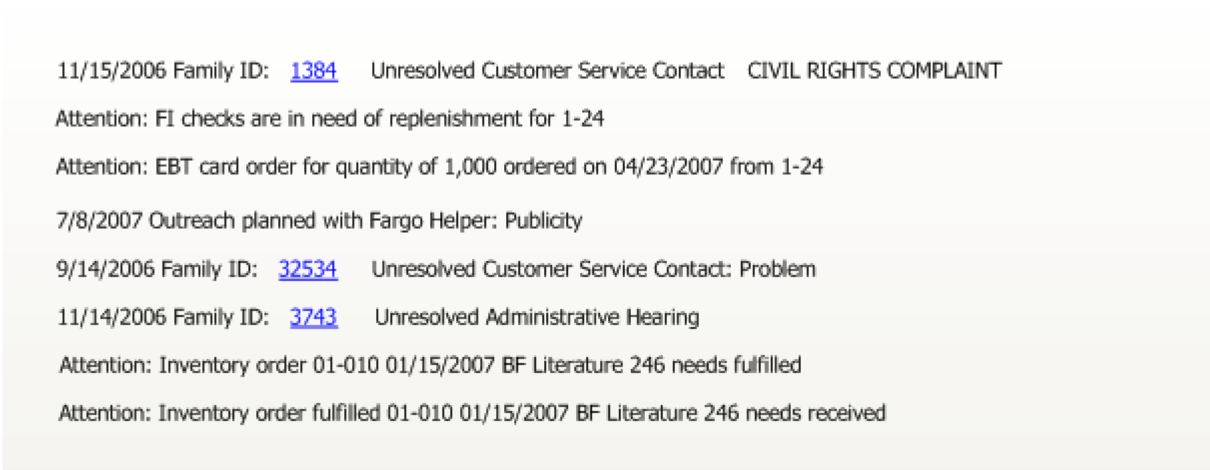
3 Main Panel

This panel is where all the screens described in the accompanying DFDDs are displayed.

Additionally, operation alerts are displayed when the user clicks on the Operations Navigation Button or when the user clicks on the Alerts navigation node based on the user's security roles and level of access.

The Operation Alerts are of eight types:

- Unresolved Civil Rights Complaints
- FI checks or EBT cards Inventory Replenishments
- FI checks or EBT card Orders
- Future Outreach Events or Activities
- Unresolved Administrative Hearings
- Unresolved Other Customer Service Contacts
- Non-Serialized Inventory Order Alert
- Non-Serialized Inventory Order Fulfilled Alert



Alert	Description	
Unresolved Civil Rights Complaints	This is a customer service contact that has not been closed and is identified as a Civil Rights Complaint.	
	Origin	This alert is generated when a customer service record does not have a Closed Date and the Civil Rights Complaint checkbox is checked.
	Format	Record Date + "Family ID" + link to family ID + "Unresolved Customer Service Contact:" + CIVIL RIGHTS COMPLAINT
	DB	Record Date: CustomerService.RecordedDt Family ID link: CustomerService.BFAM_ID CIVIL RIGHTS COMPLAINT:
	Sort	Record Date (see business rule 1)
FI checks or EBT cards Inventory Replenishments	This is a warning issued when an inventory replenishment (FI checks or EBT cards) is needed.	
	Origin	See functional DFDD
	Format	Attention: 'FI checks' or 'EBT card' in need of immediate replenishment for <Location>" <Location> is either: - State: do not display any location - Local Agency inventory point: Z9 - Clinic inventory point: Z9-ZZZZ9
	DB	NA
	Sort	None

Alert	Description	
FI check or EBT card Order	This is the order message for the state inventory manager.	
	Origin	On the LA Clinic Inventory Summary screen, the LA or clinic inventory manager places an amount in the Currently On Order field with a Current Order Date that is less or equal to than the current date. This message will disappear when the state inventory manager, on the State Shipment screen, ships to the LA or Clinic with a Shipment date that is greater than or equal to the Current Order Date.
	Format	Attention: ‘FI check’ or ‘EBT card” order for quantity of <Currently On Order> ordered on <Current Order Date> from <Order Location> <Order Location> is either: - Local Agency inventory point: Z9 - Clinic inventory point: Z9-ZZZZ9
	DB	FIStockLocalThreshold.AlertIn or EBTStockStateThreshold.AlertIn
	Sort	Current Order Date (see business rule 1)
Future Outreach Event or Activity	This is an outreach activity that is has a current or future date.	
	Origin	See functional DFDD
	Format	Outreach Date + “Outreach planned with “ + Outreach Organization Name + “: “ + Outreach Type
	DB	Outreach Date: OutreachEvent.EventDt Outreach Organization Name: OutreachEvent.Org_ID Outreach Type: OutreachEvent.EventTypeCd
	Sort	Outreach Date: (see business rule 1)

Alert	Description	
Unresolved Administrative Hearings	This is a participant administrative hearing that has not been closed.	
	Origin	This alert is generated when an administrative hearing record does not have a Closed Date.
	Format	Record Date + “Family ID” + link to family ID + “Unresolved Administrative Hearing:” + “Hearing Type Cd”
	DB	Record Date: ParticipantHearing.AppealDt Family ID link: Family ID of ParticipantHearing.Part_ID Hearing Type Cd: English translation of ParticipantHearing.HearingTypeCd
	Sort	Record Date: (see business rule 1)
Unresolved Other Customer Service Contacts	This is a customer service contact that has not been closed and is NOT identified as a Civil Rights Complaint.	
	Origin	This alert is generated when a customer service record does not have a Closed Date and the Civil Rights Complaint checkbox is NOT checked.
	Format	Record Date + “Family ID” + link to family ID + “Unresolved Customer Service Contact:” + Customer Service Type
	DB	Record Date: CustomerService.RecordedDt Family ID link: CustomerService.BFAM_ID Customer Service Type: CustomerService.ServiceTypeCd
	Sort	Record Date: (see business rule 1)

Alert		Description
Non-Serialized Inventory Order		This is a non-serialized inventory order that has been completed by the LA/clinic and is ready for fulfillment by the state.
	Origin	This alert is generated when an inventory order has been marked complete. Fulfilling the order by checking the Order Sent checkbox closes the alert.
	Format	"Attention: Inventory order" + <Order name> + "from" + <Order location> + "needs fulfilled" <Order Location> is either: - Local Agency inventory point: Z9 - Clinic inventory point: Z9-ZZZZ9
	DB	NonSerializedInventoryOrder.Name
	Sort	Order Date: (see business rule 1)
Non-Serialized Inventory Order Fulfilled		This is a non-serialized inventory order that has been fulfilled by the state and is ready to be marked as received by the LA/clinic. It may take a few days until the inventory items are received by the clinic.
	Origin	This alert is generated when an inventory order has been marked as sent. Receiving the order by completing the received date closes the alert.
	Format	"Attention: Inventory order fulfilled" + Order name + "needs received"
	DB	NonSerializedInventoryOrder.Name
	Sort	Fulfilled: Ascending (see business rule 1)

Business Rules
1. Alert types sorting should be: a. Civil Rights b. FI stock or EBT cards Inventory Replenishments c. All Others (by date: Oldest to Most Recent) 2. These alerts are controlled by security. They should be setup so that: a. Clinic Supervisor: Clinic Alerts of Unresolved Civil Rights Complaints, Inventory Replenishments, Future Outreach Events or Activities, Unresolved Administrative Hearings, Unresolved Other Customer Service Contacts and Non-Serialized Inventory Order Fulfilled. This would be for their LA or clinic only. b. State Operations Manager: All Clinic Alerts of Unresolved Civil Rights Complaints, Unresolved Administrative Hearings, and All Non-Serialized Inventory Order Alerts (from Clinics)

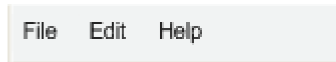
Developer Notes
1.

4 Information Panel

The Information Panel contains two tabs. The first is entitled “System” which contains active “System Wide” and ”Operations” type system messages. The second is entitled “Messages” which contains warning and error messages associated with the main panel screen. These are described in the System Overview DFDD.

5 Menu Bar

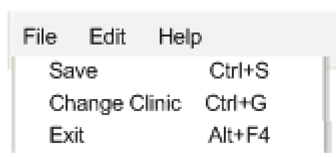
The Operations Menu Bar is visible at all times and is found at the top of the screen.



Control	Description	
File	Select File to display File menu options. See File Menu section for more information.	
	Type	Menu Item
	Hot Key	Alt + F
Edit	Select Edit to display Edit menu options. See Edit Menu section for more information.	
	Type	Menu Item
	Hot Key	Alt + E
Help	Select Help to display Help menu options. See Help Menu section for more information.	
	Type	Menu Item
	Hot Key	Alt + H

5.1 File Menu

The File menu is visible at all times, giving access to common File functions.

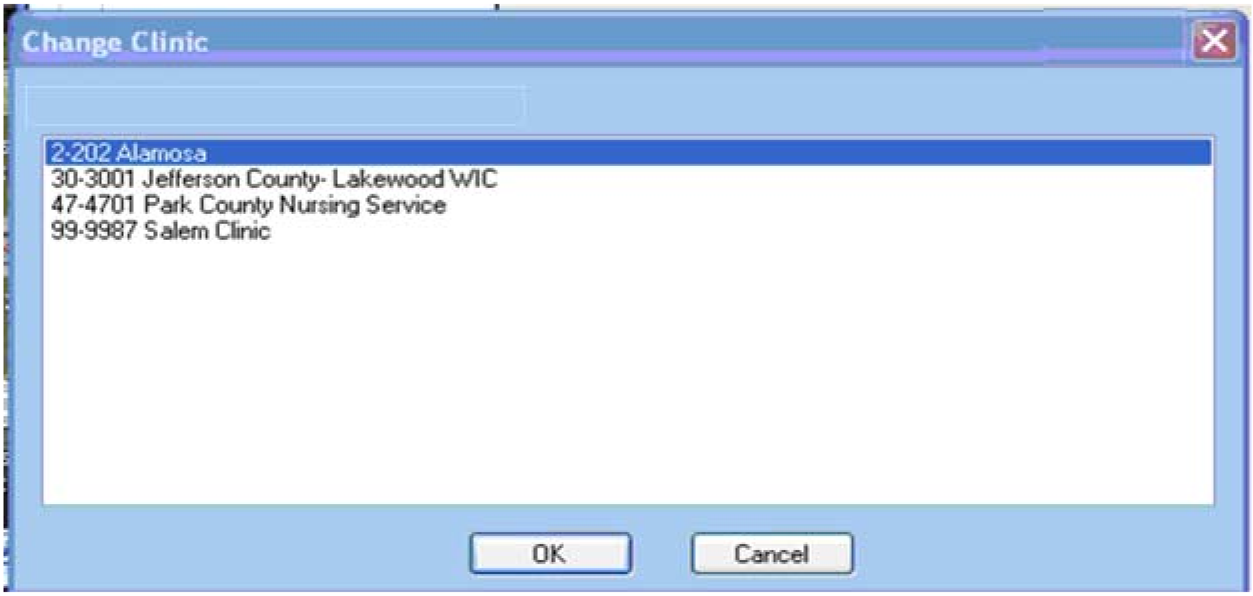


Control	Description	
Save	Select Save to save the unit of work.	
	Type	Menu Item
	Hot Key	Ctrl + S
Change Clinic	Select Change Clinic to select a different clinic.	
	Type	Menu Item
	Hot Key	Ctrl + G
Exit	Select Exit to exit the application.	
	Type	Menu Item
	Hot Key	Alt + F4

Note: Save is not available when on the Alerts navigation node.

5.1.1 Change Clinic

This pop-up is used to change the clinic that the user is logged into. At user login, the user selects a clinic. The access for the user is based on the clinic.

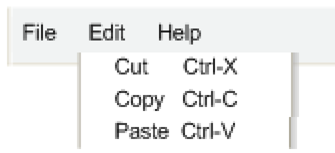


Control	Description			
Unlabeled	The unlabeled data grid within the Change Clinic pop-up allows the user to select another clinic. The user sees clinics that they have access rights to see. The user highlights the clinic that they want to go to and clicks the Close button.			
	Type	Read-Only Data Grid		
	Display	Yes		
Unlabeled	This is the local agency-clinic number.			
	Format	99-999	**Calculated**	No
Clinic name	This is the name of the clinic.			
	Format	Alphanumeric	**Calculated**	No
OK	Clicking the OK button changes the clinic and returns the user back to the main application.			
	Type	Command Button		
	Hot Key	Alt + O		

Control	Description	
Cancel	Clicking the Cancel button returns the user back to the main application.	
	Type	Command Button
	Hot Key	Alt + L

5.2 Edit Menu

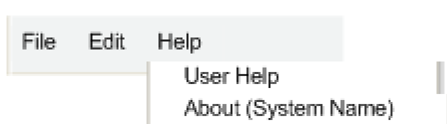
The Edit menu is visible at all times, giving access to editing functions. Most editing is done on the individual tab. The functions are enabled or disabled depending on their availability.



Control	Description	
Cut	Select the Cut menu item to remove selected text to paste it to another location.	
	Type	Menu Item
	Hot Key	Ctrl + X
Copy	Select the Copy menu item to create a copy of selected text to paste it to another location.	
	Type	Menu Item
	Hot Key	Ctrl + C
Paste	Select the Paste menu item to place text cut or copied in the selected location.	
	Type	Menu Item
	Hot Key	Ctrl + V

5.3 Help Menu

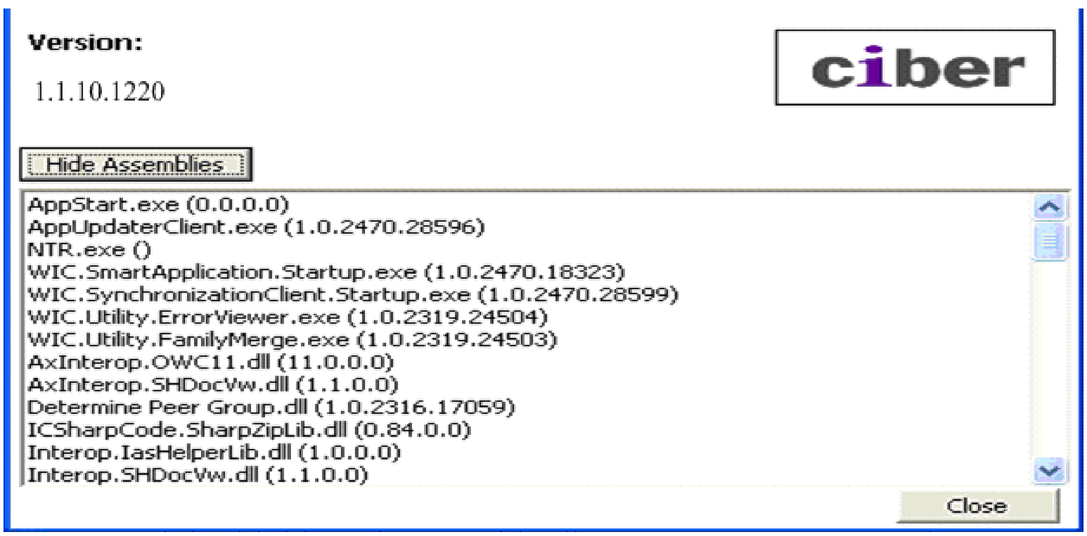
The Help menu is visible at all times, giving access to user help and system version information.



Control	Description	
User Help	Clicking the User Help menu item allows the user to view the current version of the application User Help. This opens a Help Window as described in the System Overview DFDD.	
	Type	Menu Item
	Hot Key	None
About (System Name)	Clicking the About (parameter) menu item allows the user to view version and system information.	
	Type	Menu Item
	Hot Key	None

5.3.1 About (System Name) Pop-up

This pop-up provides the user with the version number of the application and allows for assemblies to be viewed as needed.



Control	Description			
Version	The version number that is displayed shows the version of the application that is currently being used (as defined in system parameter).			
	Type	Text Box		
	Required	NA		
	Length	NA		
	Validation	NA		
	Display Only	Yes	**Calculated**	No
	DB Column	Not Stored		

<table>
<tr><th>Control</th><th colspan="4">Description</th></tr>
<tr><td rowspan="7"></td><td colspan="4">The CIBER logo appears for branding purposes. This is the company that developed the application.</td></tr>
<tr><td>Type</td><td colspan="3">Image</td></tr>
<tr><td>Required</td><td colspan="3">Yes</td></tr>
<tr><td>Length</td><td colspan="3">NA</td></tr>
<tr><td>Validation</td><td colspan="3">NA</td></tr>
<tr><td>Display Only</td><td>Yes</td><td>Calculated</td><td>No</td></tr>
<tr><td>DB Column</td><td colspan="3">NA</td></tr>
<tr><td rowspan="3">Show Assemblies/Hide Assemblies</td><td colspan="4">By default, the About (System Name) Pop-Up displays the version number of the application. Clicking the Show Assemblies command button displays system assemblies. Clicking the Hide Assemblies command button returns to the default view.</td></tr>
<tr><td>Type</td><td colspan="3">Command Button</td></tr>
<tr><td>Hot Key</td><td colspan="3">Alt + M</td></tr>
<tr><td rowspan="3">Close</td><td colspan="4">Clicking the Close command button closes the About (system name) pop-up and returns the user to the Operations screens.</td></tr>
<tr><td>Type</td><td colspan="3">Command Button</td></tr>
<tr><td>Hot Key</td><td colspan="3">Alt + C</td></tr>
</table>

Business Rules
1.

Developer Notes
1.

6 Tool Bar

The Operations Tool Bar is visible at all times, giving access to frequently used functions and screens.

Control	Description	
	Clicking this icon saves any changes that were made on the current screen to the database.	
	Type	Command Button
	Hot Key	None

Note: Save is not available when on the Alerts navigation node.

7 Synchronization

The MPSC WIC system can be run with the users connected directly to the central database or, at clinics without Internet access, users can operate in disconnected mode. For the latter option, clinic computers connect to a local database that has been downloaded with a subset of statewide data from the central database.

Users directly connected to the central database are considered to be in connected mode. Users not connected to the central database that are using a local database are considered to be in disconnected mode.

The following factors guided the decisions for what functions are available in disconnected clinics:

- Limiting the amount of data to be downloaded to just essential information to keep the synchronization process as short as possible.
- Limiting the functional profile to the business operations performed at clinics since these represent the remote user community (i.e. no vendor management, operations, finance, most of system administration, and reporting).
- Considering functions that require the full capabilities of the central database (e.g. Reporting Services)

This section explains the system's functionality and processes relative to data synchronization for users who operate in disconnected mode. It describes the processes used to download data from the central database and to synchronize disconnected clinic data with the central database after working in disconnected mode. The synchronization process also incorporates application updates so that disconnected users have the most current version of the MPSC WIC application once they synchronize.

7.1 Synchronization Process

The purpose of the synchronization process is to enable clinics that operate in disconnected mode to get updated data and application components on a regular basis. There are 3 primary components of this process.

1. Data upload – During this step, data from the clinic server is uploaded to the central database after the end user connects to the central server. Depending on the speed of the Internet connection and the volume of data changes this step may take 5 - 30 minutes.
2. Snapshot generation – This is a system step that creates new subsets of data after all uploads and nightly processing is completed. This step is required to create the updated databases used during the download process. Depending on the size of the database and the processing speed of the server this step may take 30 – 60 minutes.
3. Data and application download – This is the step that downloads refreshed databases, data tables, and application components to the clinic server. Depending on the speed of the Internet connection and the size of the database this step may take 5 – 30 minutes.

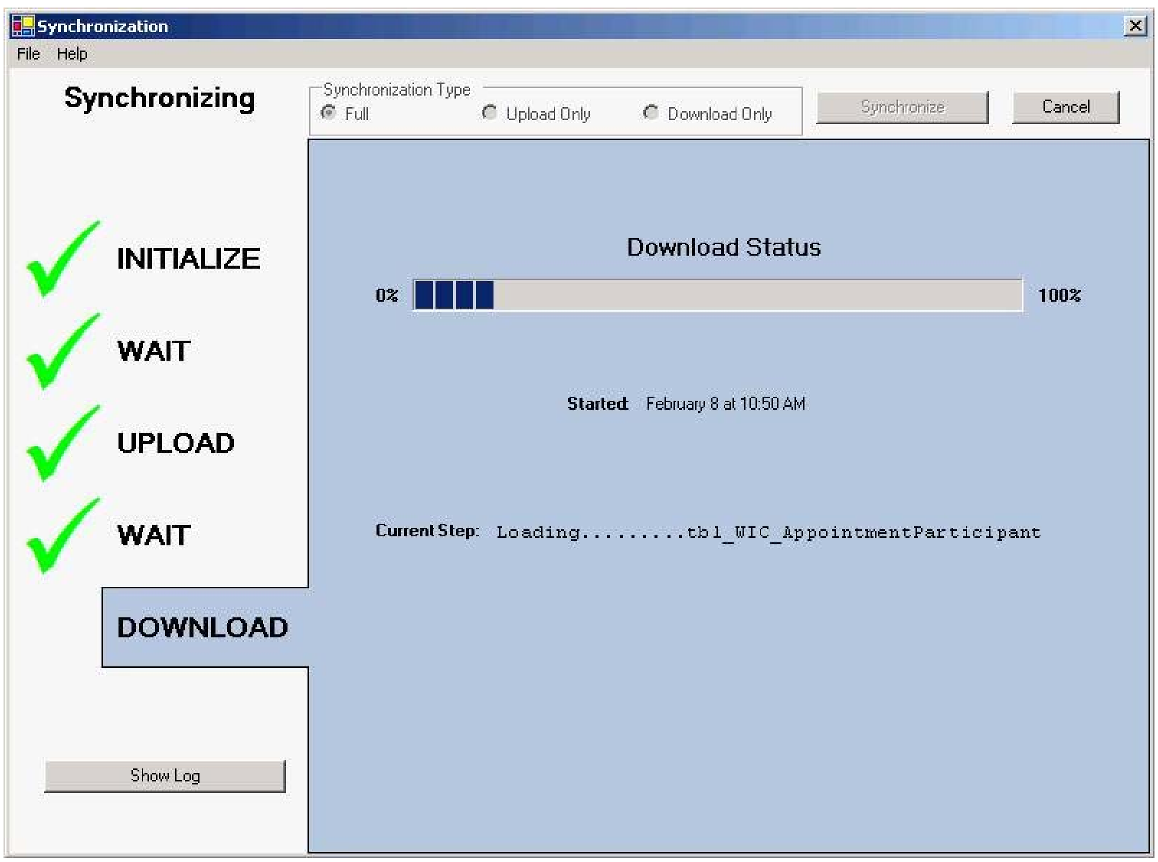
Before performing synchronization for the first time a computer must be configured as a clinic server. This is initiated by logging on in connected mode (i.e., to the central server) and attempting a synchronization. The sync client application detects that the computer is not yet a clinic server and prompts the user to contact the helpdesk for an authorization code and then steps them through the setup process.

Where a clinic server is used daily, an end user will typically perform a "Full" sync at the end of each day. In this case, data is uploaded, batch processing takes place, and then a new database is downloaded. Where the clinic server will not be used the next day, the user may choose to select an "Upload-Only" sync at the end of the day and then either a "Full Sync" or "Download-Only" sync just before the clinic server is used again.

Each of the steps above must occur in the specified sequence. In order to maintain data integrity, specific times will be identified to perform the required steps in the process.

For clinics operating in disconnected mode, synchronization with the central server should be started each day after business hours have ended and before the end user leaves for the day. Users must take the clinic server to an Internet-enabled location to initiate the synchronization process. Updates from all clinic servers are submitted until a pre-specified time, usually after peak online production hours.

Synchronization is initiated by the user by selecting the 'Synchronization' navigation button. This will launch the synchronization screen as shown below:



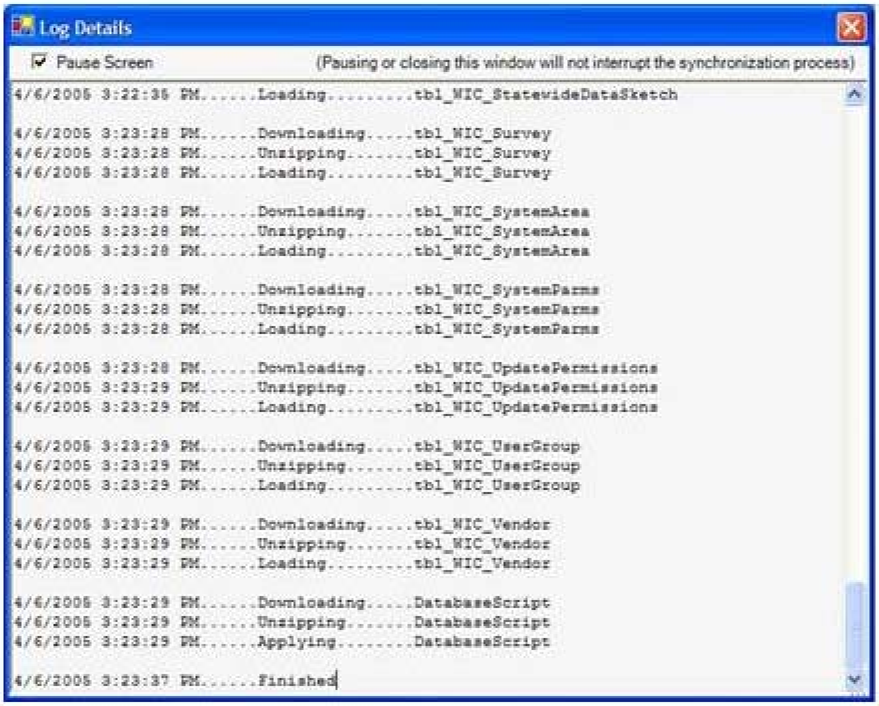
Users will select the synchronization type that they desire:

- Full – This is the option that will typically be selected for staff who work daily at disconnected clinics. When selected, this option will perform a full upload and download during overnight processing, and refreshed data will be available when the staff person arrives at work the next day.
- Upload only – This option should be selected if the end user is not expecting to use the clinic server for disconnected operations on the following day. If, for example, the end user will be on vacation and the clinic server will not be used for a week, that person may opt to upload only. When returning to work after vacation, the download only option would be chosen to download current data.
- Download only – This option only performs a data and application download. It is recommended for use on a clinic server newly prepared for disconnected use, or when the end user previously selected 'Upload only', and is ready for a fresh data and application copy, per the example noted above.

Once the synchronization type is selected, clicking the 'Synchronize' button on the screen starts the synchronization process. The synchronization steps, shown in the left margin of the synchronization screen above, continue automatically without requiring user input. Green checkmarks appear as individual steps complete, and a countdown indicates the time remaining before the next step begins.

When the synchronization has completed successfully, the following screen will be displayed.

During the synchronization process, the details of the log can be displayed by selecting the "Show Log" command button.



7.1.1 Data Upload

Once the user has started the synchronization process, the system will first authenticate the clinic server to the central database. During this process, data specific to the device requesting the synchronization process is sent to the central database, and the system is provided with basic data about the clinic server that allows it to process the database updates and also to download the specific data subset required. This process is technical in nature and transparent to the end user.

Once the clinic server has been identified to the central database, the upload process is started. This process takes all data records that have been changed on the clinic server database, and updates the central server with the changes. It is important to note that only changed records are updated. As a general business rule, data uploaded from disconnected databases will be used to update the central database, regardless of whether a specific record has been changed by another source since the time of download. This direction is based on the fact that separation of duties and role/security assignments should be set up to limit the ability for multiple people outside of a clinic to be updating the same data. Since the clinics are viewed as the 'owners' of their data, clinic uploads from disconnected databases will be considered the most accurate data source.

As noted above, data uploads can only be performed during specified periods of time. If an end user misses the upload window he/she can synchronize their data during the next day's synchronization window. While there is no inherent limit on how long a clinic server can operate without synchronizing, it is recommended that disconnected users initiate a full synchronization at the end of each day and allow the process to run through the night (assuming the disconnected server will be used the following day … otherwise an Upload Only sync is recommended). This is recommended because:

- Uploading changes made at a disconnected clinic makes the most current data available to the rest of the users in the local agency and state office.

- Uploading changes ensures that the data from the day is backed up.
- Downloading the most up-to-date copy of the central database, which is generated overnight, allows for end users to be using the most current data during operations the following day if working at a disconnected clinic.

7.1.2 Snapshot Generation

After the uploads are completed and batch processing for the night has also completed, the system generates fresh agency-specific database images to be downloaded. As noted above, this step is performed by the system without end user intervention, and is done during overnight processing. In addition to the data files, any updates to the WIC application will also be ready for downloading. This data is all stored on a separate database that will be created specifically for synchronization files.

7.1.3 Data Download

At a pre-designated time, providing the upload completed successfully, the clinic server begins the download process. Before downloading anything a number of checks are performed to guard against data loss by insuring that no data remains to be sent. Working from a list of files determined during the authentication process, the clinic server is updated with a new database, which is then loaded with updated data. In addition, any new application components are downloaded.

As shown above, the end user can continually monitor the status of the synchronization process through completion. However, the entire process is intended to be unattended and requires no user intervention.