

# *CRA Wiz*

## Technical Discussion Guide

### *Abstract*

This document was created for IT professionals, to aid them in understanding the implementation options and technical requirements for *CRA Wiz*.

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## Introduction

CRA Wiz and Fair Lending Wiz is a client/server application. The server component requires version of Microsoft SQL Server (including Express versions). The CRA & Fair Lending Wiz client was developed using .NET, Visual Basic, XML, HTML, Crystal Reports & Foxpro, and provides a rich user interface for maximum usability. CRA Wiz also provides custom reports that are interfaced with and can be directly exported to an Excel or HTML format. Data importing and exporting, geocoding, and batch reports can be scheduled for one time or recurring execution through the client interface utilizing the Windows scheduler (Scheduled Tasks) API.

When implementing CRA *Wiz* you have the option of running the application on a networked or non-networked configuration.

## Selecting your Database Engine

### What is SQL?

CRA Wiz utilizes SQL Server, Microsoft's premiere database engine – a highly scalable solution. See the Resources section of the Wiz Web Center for updated documentation regarding CRA Wiz hardware and operating system requirements. The structure used by CRA Wiz allows for a virtually unlimited number of users.

SQL Server utilizes multiple processors and multiple hard drive controllers. It will execute two or more commands at the same time and write or read from two hard drives at once, resulting in a higher processing speed.

When using SQL Server, the server will handle all the processing. The client passes instructions to the server that then executes those instructions. Geocoding, reporting, importing and updating all occur on the machine used as the server.

#### Benefits:

- SQL Server is very robust
- Unlimited number of users
- Can leverage large number of processors

#### Considerations:

You may already have an Enterprise pricing model for SQL Server that allows you to install SQL Server to as many locations with as many users as you want without having to pay additional license fees. If you do not have Enterprise licensing you may need to purchase SQL Server from Microsoft™.

While researching the best platform for your institution keep in mind SQL Server Express Edition is free with limited database size capacity (details on the next page).

### What is SQL Server Express?

SQL Server Express is a scaled-down version of SQL Server. It is free from Microsoft and should be installed using the CRA Wiz SQL Server Express installation notes [Note: CRA Wiz is not compatible with the default settings]. The installation notes walk you through the proper configurations. Please email [CRAWizSupport@wolterskluwer.com](mailto:CRAWizSupport@wolterskluwer.com) to request this documentation. SQL Server Express is not as robust as other editions of SQL or as scalable; however, with assistance from Wolters Kluwer's Professional Services it is a seamless upgrade from Express to SQL. This is a great option for small institutions with multi-user needs, and for the CRA *Wiz* mobile user base.

**Benefits:**

- SQL Server Express is Free—there is no cost from Microsoft™ to use this engine.

**Considerations:**

- Usage is limited for performance purposes.
- Other than Management Studio Express and configuration tools (if installed) there are no administrative applications

**Express versus SQL Recommendations Based on Record Count**

Below is a table outlining database engine choices based on the number of records per year and the geographic level of your institution. Use the table below along with the benefits and features listed for each database engine type to decide which database engine best meets your institution’s needs.

*Total Institution Record Count per Year by Geographic Level and Recommended Database Engine:*

Record Count/ Level	Community	State	Regional	National
200,000 +				SQL
100,000			SQL	SQL
50,000		SQL	SQL	SQL
25,000		EXPRESS/SQL	EXPRESS/SQL	EXPRESS/SQL
10,000	EXPRESS	EXPRESS	EXPRESS/SQL	EXPRESS/SQL
7,500	EXPRESS	EXPRESS	EXPRESS	
5,000	EXPRESS	EXPRESS	EXPRESS	
2,500	EXPRESS	EXPRESS		

- Microsoft SQL Server 2012 Express edition has a database size limit of 10GB
- Microsoft SQL Server 2014 Express edition has a database size limit of 10GB
- Microsoft SQL Server 2016 Express edition has a database size limit of 10GB

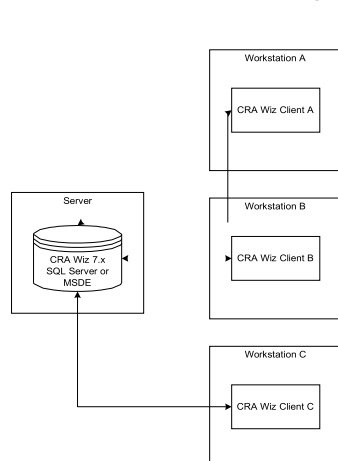
**Selecting Your Configuration**

**Bandwidth Considerations**

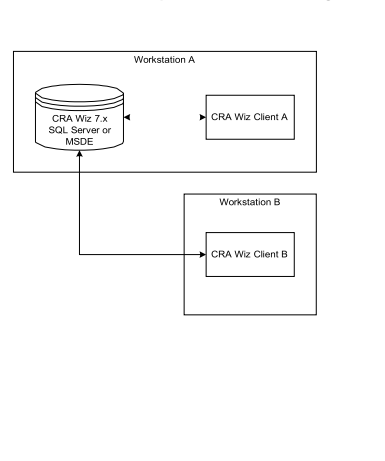
For the two networked options, Networked Client/Server and Dual-Purpose Workstation, appropriate bandwidth is needed. In particular functions such as large file editing and manipulation as well as mapping require intensive passing of data over the network. If you find that these functions have too much latency you will need to investigate ways of improving the overall network bandwidth.

**CRA Wiz 7.x Configuration Options**

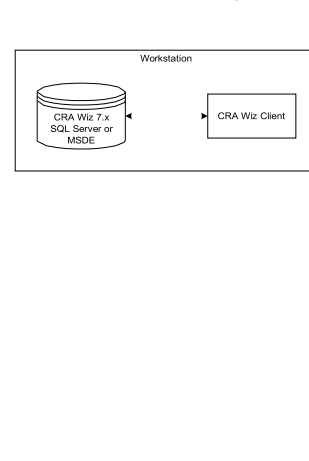
**CRA Wiz 7.x Networked Client/Server Configuration**



**CRA Wiz 7.x Dual Purpose Workstation Configuration**



**CRA Wiz 7.x Workstation Configuration**



## I) Networked Client/Server Configuration

This is a fairly intensive client model delivery of CRA *Wiz*. Users access a single centralized database system resident on the server. The workstation passes instructions to the server that then executes those instructions such as geocoding, reporting, importing and updating. The result is the client workstations are not tied up performing processor-intensive functions.

This is a highly scalable solution and is recommended for all institutions that meet one or all of the following conditions:

- ✓ Lending on a national scale
- ✓ Doing a high volume of lending
- ✓ Need tight collaborative work environments
- ✓ Have a mandate from IT that “everything must be on a server”
- ✓ Looking for the best system they can license

We suggest that clients use a dedicated server system versus a server that is shared with other programs because:

- ✓ It will be easier to manipulate the databases without having to go through layers of IT infrastructure to make modifications.
- ✓ Geocoding is processor-intensive. If you are running a large number of other applications on the same server, you may see a significant drop in performance in those applications.
- ✓ For higher access level users CRA *Wiz* enables you to directly manipulate databases, including adding and deleting entire databases. IT personnel are justifiably protective of their system-critical back-end databases and do not normally allow this level of access. This should not be an issue with a stand-alone system.

### Benefits:

- Allows for a highly collaborative work environment
- IT personnel can build direct interfaces with other internal systems that will make data entry and retrieval easier
- Usually a file back-up process is already in place as part of standard operating procedures

### Considerations:

- You may have to purchase hardware. Depending on how scaled-up you want to be you will spend \$1,500 to \$30,000 on new hardware. You may also be able to re-purpose one of your existing machines for this task.

**NOTE:** In addition to a networked client/server configuration we also support Citrix as a client host. The client components should be installed on the Citrix machine and it only needs to be installed once regardless of the number of licensed CRA users. The database engine (SQL or EXPRESS) and the CRA *Wiz* server installation package should be installed on a separate machine regardless of the configuration (true client/server or stand-alone workstation). ***WKFS provides special instructions for installing CRA *Wiz* in a Citrix environment and can be downloaded from***

[https://www.pcdownloads.com/crawiz/pcdownload/CRA%20Wiz/Misc%20Documents/Citrix\\_Install.pdf](https://www.pcdownloads.com/crawiz/pcdownload/CRA%20Wiz/Misc%20Documents/Citrix_Install.pdf)

## II) Dual Purpose Workstation/Server Configuration

This is a client/server workstation hybrid configuration. Users access a single centralized database system residing on one of the workstations. The workstation server performs both server and client functions for one user, and server functions for other connected users. All processing occurs on the workstation where the server is installed.

This solution is not as scalable as the networked client/server solution, but the upgrade path to a separate server is straightforward. It is recommended for:

- ✓ Small institutions that need a centralized database solution, but not the power of a separate server

- ✓ Smaller institutions where the purchase of a server is cost prohibitive
- ✓ Small institutions that have a need for multiple users, but require only limited simultaneous access

**Benefits:**

- Allows for a highly collaborative work environment
- Does not require a separate server and therefore is cost effective

**Considerations:**

- Not as scalable as a separate server
- Workstation server user may experience degraded performance when server processes are running
- A back-up process for data files will need to be developed

### III) Workstation Configuration

On the Workstation version of CRA *Wiz* all processing occurs on the local workstation. The workstation resources will be busy when you geocode or run large queries.

This solution is not scalable and for multiple users the database is decentralized. It is recommended for:

- ✓ Smaller institutions with only single user access requirements
- ✓ Mobile users who need to install on a laptop that will be frequently disconnected from the network

**Benefits:**

- No need to procure server hardware
- No need for network engineering

**Considerations:**

- Not a collaborative work environment
- Does not allow use of more than one user at a time
- Workstation resources are in use during processing and may slow down the machine
- Back-up process for data files will need to be developed

## Server, Client, Address Data Set-up Notes

### Server Set-Up Notes

- SQL/EXPRESS Server username and password are defined during the CRA *Wiz* Server installation process.
- Individual user log-in(s) are controlled through the CRA *Wiz* client and encrypted tables in SQL/EXPRESS Server. These cannot be used to log into the SQL/EXPRESS Server directly.
- SQL settings: Character set is 1252/ISO; sort order is dictionary order, case insensitive; and unicode collation is general unicode, case insensitive, width insensitive, and Kana insensitive.
- SQL server can be configured to use any port.
- Users with owner or administrator status (as indicated through CRA *Wiz* business logic) are able to create and drop databases. All such activity is handled through the CRA *Wiz* interface and is completely restricted to CRA *Wiz* data files.
- There are business logic DLLs that must be installed on the server for batch geocoding to be activated.
- All *Wiz* folders (including the log folder) must be visible and editable (i.e.: no 'hidden' folders)
- To avoid duplicating datasets, it is possible to setup shared folders on the server for Geocoding Data and Mapping Data. If shared folders on the server are not allowed, it is also possible to install these folders on external file servers or individual workstations.

## Client Set-Up Notes

### Date Format

The date format on client machines should be set as Month/Day/Year (e.g.: M/D/Y, MM/DD/YYYY, etc.) in the machine's operating system. Date format settings with the Day first (DD/MM/YYYY) may result in system issues.

### Registry Key Rights

During installation of the client or updates to the client, the user will need local administrative rights on the PC. To run the software the user will need either local administrative rights, or administrative rights, to these registry keys:

- HKLM\SOFTWARE\Wolters Kluwer Financial Services\CRA Wiz and Fair Lending Wiz
- HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\InternetSettings\Zones\0
- HKCU\SOFTWARE\Microsoft\Windows\CurrentVersion\InternetSettings\Zones\0
- HKCU\SOFTWARE\PCi Services, Inc.\CRA Wiz
- HKCU\SOFTWARE\PCi Services, Inc.\CRA Wiz 6.0\Startup
- HKCU\SOFTWARE\VB and VBA Program Settings

## Communication Protocols

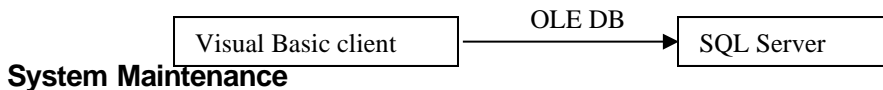
### OLE DB

CRA *Wiz* uses OLE DB to communicate with the server through the stored procedures installed as part of the *Wiz* Client. Outside of stored procedures no direct calls are made.

### TCP/IP

Although CRA *Wiz* is protocol independent, the EXPRESS workstation implementation model requires TCP/IP to be running on the workstation prior to the installation of *Wiz*.

[Binary Tree DB for Geocoding](#)



## System Maintenance

After the license disk has been installed and users created, the licenses are assigned to each user through the system maintenance screen shown below that is part of the client interface.

Data and Application Mapping | User Management | **License and Access Management** | Settings

### License and Access Management

User Name: Admin

License Information Refresh

Module	Licenses	Remaining
Event Scheduler	10	9
Importing	10	9
File Management	10	9
Submission	10	9
Report	10	9
Mapping	10	9
Advanced Mapping	10	9
Create Areas	10	9
Custom Table	10	9
Editing	10	9
Geocoding	10	9
RATA	10	9
Wiz Geocode Outsourcing	10	9
Custom Reports	10	9
Custom Report Wizard	10	9
Workbook Builder	10	9
PE Reports	10	9
Peer Mortgage Data	10	9
Peer Small Business Data	10	9
Branch and Deposit Data	10	9
Business Geo-Demographic Data	10	9
Projected Geo-Demographic Data	10	9
2000 US Census Transitional Data	10	9
HMDA Pricing Reports	10	9
Risk Assessment - Retail	10	9
Risk Assessment - Commercial	10	9
Comparative File Review - Decisioning - Retail	10	9
Comparative File Review - Decisioning - Commercial	10	9
Comparative File Review - Pricing - Retail	10	9
Regression Decisioning - Retail	10	9
Regression Decisioning - Commercial	10	9
Regression Pricing - Retail	10	9
Focal Point Report	10	9

Check All Clear All

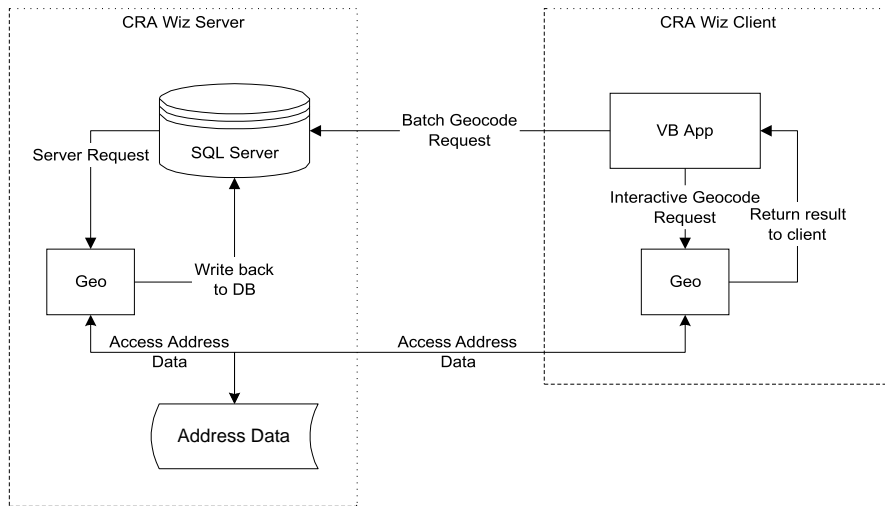
Access	Module
<input checked="" type="checkbox"/>	Event Scheduler
<input checked="" type="checkbox"/>	Importing
<input checked="" type="checkbox"/>	File Management
<input checked="" type="checkbox"/>	Submission
<input checked="" type="checkbox"/>	Report
<input checked="" type="checkbox"/>	Mapping
<input checked="" type="checkbox"/>	Advanced Mapping
<input checked="" type="checkbox"/>	Create Areas
<input checked="" type="checkbox"/>	Custom Table
<input checked="" type="checkbox"/>	Editing
<input checked="" type="checkbox"/>	Geocoding
<input checked="" type="checkbox"/>	RATA
<input checked="" type="checkbox"/>	Wiz Geocode Outsourcing
<input checked="" type="checkbox"/>	Custom Reports
<input checked="" type="checkbox"/>	Custom Report Wizard
<input checked="" type="checkbox"/>	Workbook Builder
<input checked="" type="checkbox"/>	PE Reports
<input checked="" type="checkbox"/>	Peer Mortgage Data
<input checked="" type="checkbox"/>	Peer Small Business Data
<input checked="" type="checkbox"/>	Branch and Deposit Data
<input checked="" type="checkbox"/>	Business Geo-Demographic Data
<input checked="" type="checkbox"/>	Projected Geo-Demographic Data
<input checked="" type="checkbox"/>	2000 US Census Transitional Data
<input checked="" type="checkbox"/>	HMDA Pricing Reports
<input checked="" type="checkbox"/>	Risk Assessment - Retail
<input checked="" type="checkbox"/>	Risk Assessment - Commercial
<input checked="" type="checkbox"/>	Comparative File Review - Decisioning - Retail
<input checked="" type="checkbox"/>	Comparative File Review - Decisioning - Commercial
<input checked="" type="checkbox"/>	Comparative File Review - Pricing - Retail
<input checked="" type="checkbox"/>	Regression Decisioning - Retail
<input checked="" type="checkbox"/>	Regression Decisioning - Commercial
<input checked="" type="checkbox"/>	Regression Pricing - Retail
<input checked="" type="checkbox"/>	Focal Point Report

Analysis  
Fair Lending Wiz  
Edit & Geocode

## Address Data (GeoData) Set-Up Notes

For batch geocoding purposes, the Address Data should be installed on the same machine as the EXPRESS workstation or in the case of a separate server the Address Data should be installed on the Server that hosts CRA *Wiz*. The data is setup as a binary tree database and accessed when the stored procedures call to the geocoding DLLs. For maximum efficiency and performance, WKFS strongly suggests that the Address Data be installed on the SQL Server machine. Address Data should be stored in a shared folder so that multiple users can access the data for interactive geocoding (if unfamiliar with the geocoding process reference section titled ‘CRA *Wiz* Processes in the Client/Server Environment’). Below is the recommend configuration. Note that if you are doing a stand-alone workstation configuration (refer to the implementation options) then the client and server reside on the same machine.





- The Address Data must be installed to the same domain as the Wiz program.
- When sharing the address data folder in a client/server setup, you should explicitly add the Windows accounts of all Wiz users to the permissions list on the shared folder, giving them "Full Control". NOTE: Even if the "Everyone" group has these rights, you should explicitly add the individual users.
- Because we use UNC paths within the program to point to the address data, the account that starts the MSSQLSERVER service must be a domain account, rather than the "Local System" account. This domain account also needs to be added to the permissions list on the shared address data folder.

*For more information on installing Address Data and the required DLLs to a SQL server, please reference the Frequently Asked Questions section, pages 17-21.*

## What Happens During Installation

### Server Installation

The CRA *Wiz* Server installation program asks the installer to enter a SQL Server authenticated username and password. Using this SQL Server authenticated username and password, the CRA *Wiz* Server installation program connects to the targeted SQL Server. Once connected to the SQL Server, a script is executed to attach the SQL Server database from the CRA *Wiz* Server CD to the targeted SQL Server.



The installation program then executes a series of SQL commands to create the necessary CRA *Wiz* system databases and table structures. Based on the serial number entered into the CRA *Wiz* Server installation program, the licensed data elements, stored procedures, and sample databases are created. The five core databases created are CRB, ObjectStore, General, USCensus and Procedures. The sample databases are created with the naming convention *Wiz\_xxxxx* where *xxxxx* represents a number (starting with 00000) and each database increments by one. This is the same naming convention used when a user creates a new CRA *Wiz* file.

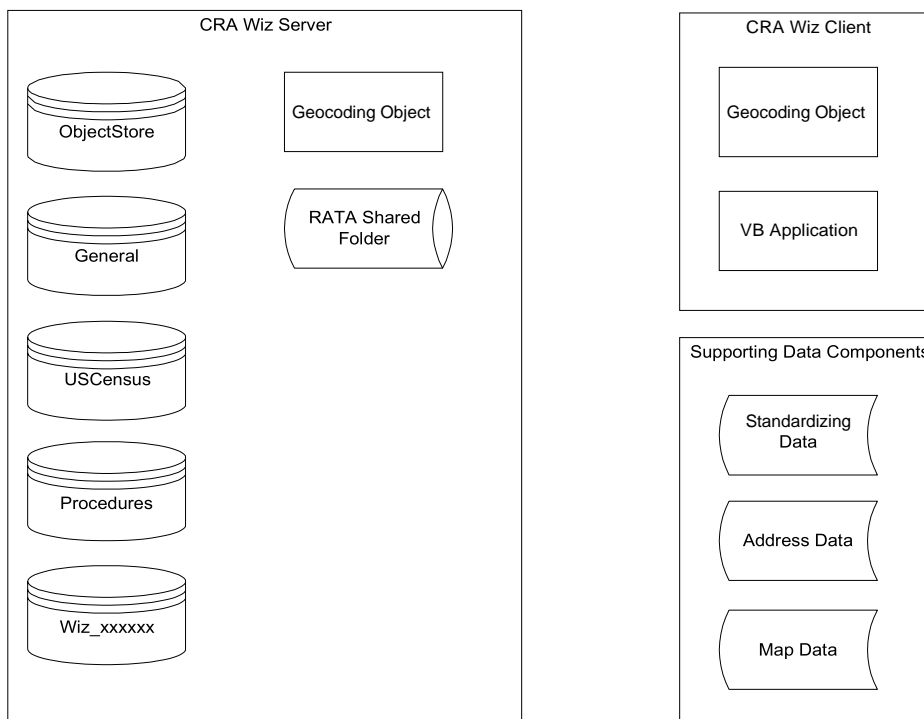
Two shared folders are created during the installation process on the server:\*

- ...\\ProgramFiles(x86)\\Wolters Kluwer Financial Services\\CRA Wiz and Fair Lending Wiz\\Data
  - ...\\ProgramFiles(x86)\\Wolters Kluwer Financial Services\\CRA Wiz and Fair Lending Wiz\\Logs
- \* - This list excludes anything from 3<sup>rd</sup> party installations that the server installation runs.

The "Everyone" group has Full Control for each of these shares. We also grant the "Everyone" group full control over the actual folders and their subfolders via a command-line utility: cacls.exe.

See Appendices A & B for the specific tables created in the CRA *Wiz* databases and for specific DLLs installed.

The final component installed is the geocoding object, which is installed to the server outside of SQL. This component consists of several DLL files and other supporting files. The default installation location of these files on the server is C:\\Program Files\\Common Files\\PCI Common\\Geocoder Shared\\. The DLL's are accessed by SQL Extended Stored Procedures, and they, in turn access the address database in its proprietary format as created by the Tele Atlas. Preferably this address data set will reside on the server used by CRA *Wiz*, but it can be installed to an alternate location (See the section 'Address Data Set-Up Notes' for more details).



### Client Installation

The CRA *Wiz* Client installation program installs the geocoding object, the CRA *Wiz* Visual Basic and the Fair Lending *Wiz* FoxPro client application to the workstation.

### Data Set Installation

At the time of client and server installation certain data sets are installed based on the serial number and licensing. They could include sample data components of the Standardizing Data, Geocoding Address Data and Map Data as well as the full data set of Peer Small Business Data, Business Geo-Demographic Data and Projected Geo-Demographic Data. Additional data sets that are installed separately are Peer Mortgage Data, Geocoding Address Data and Mapping Data.

The CRA *Wiz* data set installation program queries the installer to map the location of the data set based on the network configuration. Through the CRA *Wiz* client Data and Application Mapping screen, the data sets location can be remapped as the network environment changes.

Note: If your institution elects not to use the WKFS recommended default paths for installation of data sets, it is important you document the path you select during installation. *WKFS will have limited ability to assist in locating data sets installed to non-default locations.*

## Data and Application Mapping

Wiz Data and Application Mapping

CRA Wiz Element	Location
Geocoding Data - 2000	
<b>A</b> Geocoding Data - 2010	C:\Program Files (x86)\Wolters Kluwer Financial Services\Geocoding Data - 2010
<b>B</b> Mapping Data	C:\Program Files (x86)\Wolters Kluwer Financial Services\Mapping Data\Tract.tab
<b>C</b> Default Publishing Location	
<b>D</b> Database File Location on Server	C:\Program Files (x86)\Wolters Kluwer Financial Services\CRA Wiz and Fair Lending Wiz\Data\
<b>E</b> Log File Location on Server	C:\Program Files (x86)\Wolters Kluwer Financial Services\CRA Wiz and Fair Lending Wiz\Logs\
<b>F</b> Local Data Folder	C:\Program Files (x86)\Wolters Kluwer Financial Services\CRA Wiz and Fair Lending Wiz\CRAData\
<b>G</b> FLWiz Report Location	C:\Program Files (x86)\Wolters Kluwer Financial Services\CRA Wiz and Fair Lending Wiz\
<b>H</b> Shared Location for Export Web Service	
<b>I</b> Submission File Location	C:\DOCUME~1\ADMINI~1\LOCALS~1\Temp\

Description of elements displayed on the CRA & Fair Lending Wiz System Maintenance screen:

**Geocoding Fields (A-E):** These fields are populated with the file paths where the geocoding data is installed. We recommend using UNC paths for these locations in a client-server environment so that all users, including the server locate the data in the same location. The following permissions are required for the geocoding data folders in a client-server environment:

- *For batch geocoding:* The account that the SQL Server service is running under needs to have both ‘Share’ permissions as well as ‘Read’ access.
- *For interactive geocoding:* The individual Windows users who launch the application need to have both ‘Share’ permissions as well as ‘Read’ & ‘Write’ access.

**A. Geocoding Data - 2010**

- This field provides the path location for the 2010 geocoding address data as well as indicating the core file necessary for this process.

**B. Mapping Data**

- This field provides the path location of the data used for geographic mapping in both the map module as well as interactive geocoding and the core file necessary for this process. In a client server environment this is typically in a shared location and is specified as a UNC path. All Windows users that use the application would need both ‘Share’ permissions as well as ‘Read’ access.

- **NOTE:** If you have a user who accesses the mapping data frequently and is experiencing latency due to network bandwidth constraints, you can install the mapping data locally for an individual. In order to do this, you will need to alter an ‘ini’ file. Please contact technical support for more information at 800 261 3111 or email

[CRAWizSupport@wolterskluwer.com](mailto:CRAWizSupport@wolterskluwer.com) for the first available representative.

**C. Default Publishing Location**

- This value specifies the default location for publishing any html reports.
- D. Database Location on Server**
  - This is the location, from the perspective of the server, where new database .mdf files will be created. If the location does not exist, it will create the database .mdf files in the default location for SQL server.
- E. Log File Location on Server**
  - This is the location, from the perspective of the server, where new database log .ldf files will be created. If the location does not exist, it will create the log .ldf files in the default location for SQL server.
- F. Local Data Folder**
  - This is the local file path for the application on the client machine. Default location: C:\Program Files (x86)\Wolters Kluwer Financial Services\CRA Wiz and Fair Lending Wiz\CRADData
- G. FLWiz Report Location**
  - This is the default publishing location for Fair Lending Wiz reports. This is also from the perspective of the client machine.
- H. Shared Location for Export Web Service**
  - This is the default location for file exports when using the export web service. The export web service requires a separate web server to be installed. This functionality allows configuration of a web service for exporting so that your clients are not executing DTS packages locally.
- I. Submission File Location**
  - This is the default location, from the perspective of the client, where the hmda.dat and cra.dat submission files will be created. If you do not populate this location it will default to your temp directory. When you create your submission file it will prompt you whether you want to use this location or specify a new directory.

*For more information on Installation, please reference the Frequently Asked Questions section, pages 17-21.*

## Authentication, User Access Levels and Passwords

### User Management

When the CRA *Wiz* server is installed, the person installing the software is asked to create a SQL/EXPRESS login, which will be used by the application in the background. Using the CRA *Wiz* Visual Basic client, the end users will have their own CRA *Wiz* logins, and these will use CRA *Wiz*'s SQL login in the background after they have been authenticated by the application's own login system. CRA *Wiz* maintains a table with encrypted values in SQL Server that contains the CRA *Wiz* user logins and passwords. The table also contains information regarding the products licensed to each user. An Administrator can access this table through the CRA *Wiz* client, which makes creating and deleting users efficient. Note: Passwords cannot be viewed in this table.

### Authentication

For the SQL server username and password, the CRA *Wiz* SQL Server data mart uses SQL Server authentication. For the CRA *Wiz* username and password, CRA *Wiz* uses its own username and password authentication to certify a specific instance of a client. Once certified, the client uses an encrypted and hidden SQL Server authenticated username and password.

In addition to using standard CRA *Wiz* usernames and passwords, CRA *Wiz* also supports the configuration of Windows Active Directory. This configuration allows you to specify two active directory groups: One for CRA *Wiz* Administrators and One for CRA *Wiz* Users. These two groups are then used to populate the CRA *Wiz* users table automatically. When a user launches the application, if Windows Active Directory security is specified in the system settings, it will automatically query the Active Directory to identify whether the current Windows users is a member of either of these groups.

## User Access Levels

Once the username and passwords are certified, user access is controlled by the access level and by the functional modules assigned to a user based on licensing (see ‘System Maintenance’ for more details). The four different user access levels include Administrator, Owner, Data Editor and Review Only. A user with the access of Administrator in the CRA *Wiz* application can also deny or give access of a file to any or all users. The file access levels are ‘denied’ or ‘granted’.

**Administrator** - Full Control over every aspect of the program.

**Owner** - Control of every module in the program except the User Management, License and Access Management, and Settings tabs in System Maintenance.

**Data Editor** - Allows user to Edit and Geocode a file. Restricts access to System Maintenance, Import Wizard, creating a new file, or install/restore.

**Review Only** - Only allows user to view a file. No capability of editing or geocoding a file.

## Password Security Features

The CRA *Wiz* user passwords can be configured for; days between auto-reset, number of times for re-use, number of attempts before lock out, password length & number of required characters. Additional CRA *Wiz* user password security features include:

- Users restricted from logging into the application more than once at any given time
- Users forced to change the initial password upon logging in
- Passwords have a minimum required length of six (6) characters or longer if you so specify
- Passwords are masked when entered on login screen
- Passwords are stored in an encrypted table
- Passwords are passed using 128-bit encryption
- Option to require symbol, numeric, character mix in user password
- Option to prevent saving of user password in login screen
- Option to schedule High-Level Password auto-reset
- Option to select the Security Mode of the application: *Wiz* Internal or Windows Integrated (Active Directory)

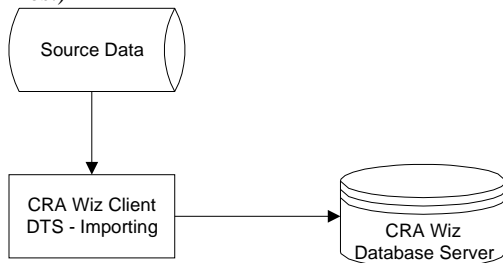
Below is the User Management screen where users are set-up, access levels assigned, and global password settings configured.



## CRA Wiz Processes in the Client/Server Environment

### Importing Data

Using the CRA Wiz Client, the CRA Wiz user identifies the source file, data mapping, data transformations, data filtering, and database target. Data can be imported from numerous external sources including ASCII, Access, SQL Server, text, Excel, and DB IV. Import formats are created within CRA Wiz to convert data fields during the import process. Data sizes vary based on the source system and number of records being imported. When these parameters are set, a DTS (Data Transformation Services) package is created and saved in the CRA Wiz Server. When the source data file is imported into the software, the DTS package is executed within the CRA Wiz client; the data is transformed and pushed into the target data tables (either existing or new CRA Wiz data files.)



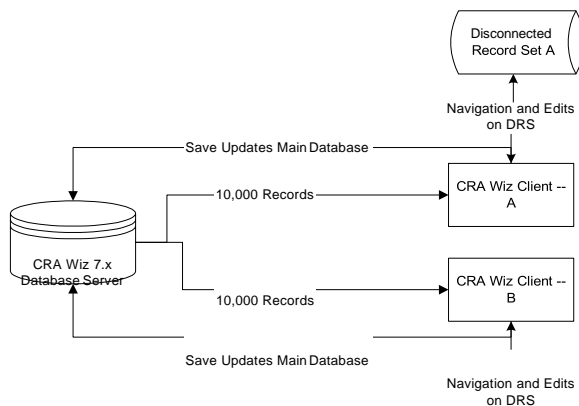
### Importing or Installing Data from CRA Wiz SaaS / HMDA Wiz

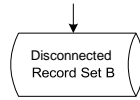
Using the CRA Wiz Client, the CRA Wiz user can import or install data from CRA Wiz SaaS via three different means.

1. The CRA Wiz SaaS user can establish an OData connection to XLS and import the XLS source file through the CRA Wiz import Wizard. <Link to OData Doc here>
2. The CRA Wiz SaaS user can Export data using the a feature within the Edit and Grid View to create a comma separated values (csv) data file and import the csv source file through the CRA Wiz import Wizard.
3. The CRA Wiz SaaS user can Transfer/Backup and Install/Restore feature within CRA Wiz File Management.

### Editing Data

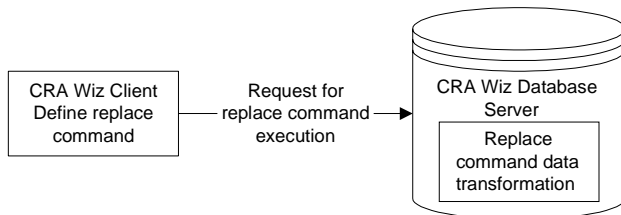
Using the CRA Wiz Client, the CRA Wiz user opens and edits a file that has been imported or created in CRA Wiz. A call is made to the server and using the default, 10,000 records are retrieved. This 10,000 record default can be changed based on the institution's internal work processes and for network optimization. This design allows two users to access data simultaneously; each working with a unique disconnected record set.





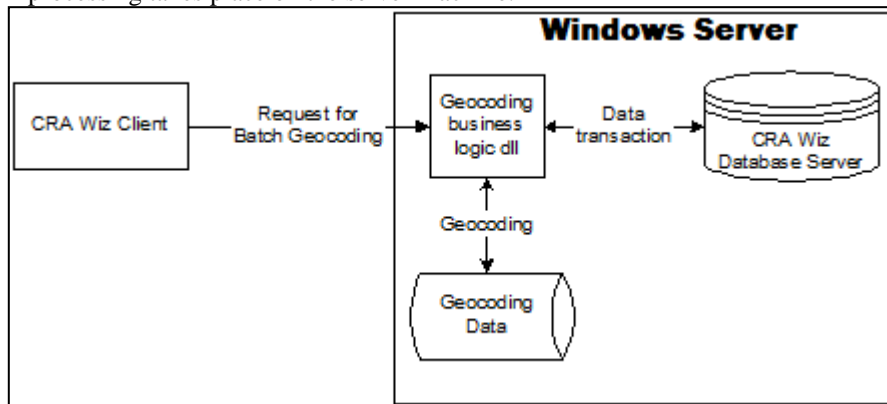
### Replace Commands

Using the CRA *Wiz* client, the CRA *Wiz* user designs a replace command consisting of VB Script or T-SQL rules based data transformations. The replace command is then saved in the CRA *Wiz* database server. When the replace command is executed, the SQL Server engine runs the data transformations as a series of transactions and transforms the data on the server side.



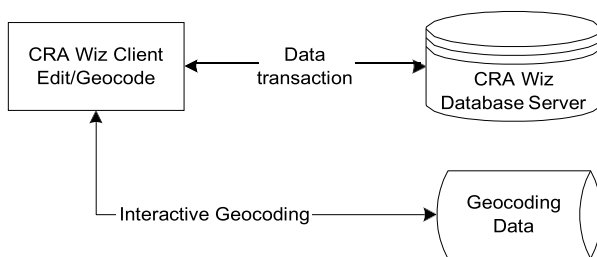
### Batch Geocoding

The CRA *Wiz* user sets the geocoding match settings, and requests a start to the batch geocoding process. The CRA *Wiz* geocoding DLL on the server machine requests data from the CRA *Wiz* Database Server, geocodes the records, and updates them back into the Database Server. All of the processing takes place on the server machine.



### Interactive Geocoding

The CRA *Wiz* user clicks on the Geocode tab in the Edit module. The user interactively geocodes the selected record. When the user saves the record set, it is updated into the CRA *Wiz* Database Server.

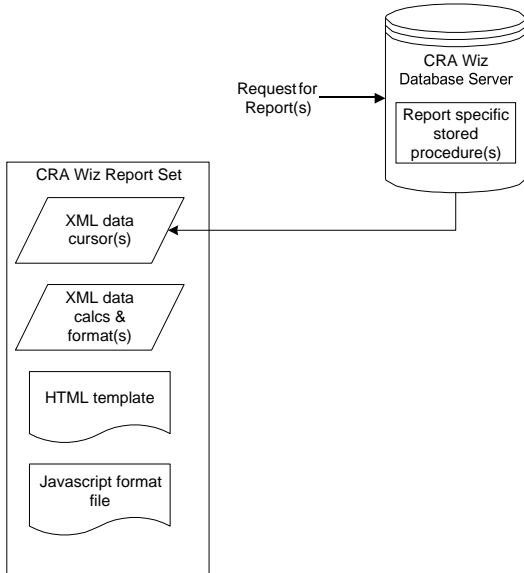


### Report Analysis

The CRA *Wiz* user requests a specific report or set of reports. The report's corresponding stored procedure is executed generating an XML output. The XML output is grouped with the appropriate XML calculation file, display template, and other formatting information. That group of data and documents is the final report display. Reports in CRA *Wiz* are generated as HTML documents. The



default publishing location can be set to any folder or network location. No web server is required.

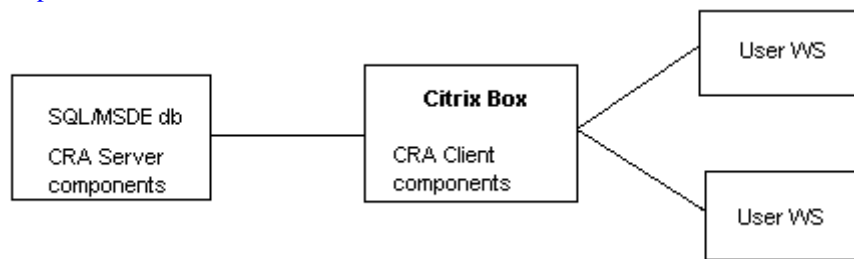


In addition to the HTML Reports, CRA Wiz also utilizes a Crystal Reports plug-in for viewing some pre-built reports. We also license an add-on module that allows you to create your own custom Crystal Reports using CRA Wiz data and the Crystal Reports interface. After creating the reports, you can save and re-run them from the reports module of the application.

*For more information on CRA Wiz Processes, please reference the Frequently Asked Questions section.*

**Installation**

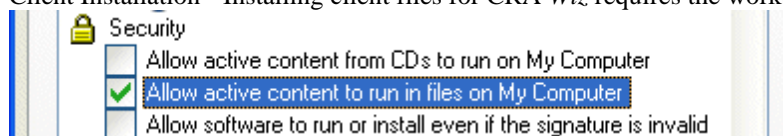
1. **Can an installation shield be used to install the CRA Wiz client software on user workstations?** Yes, CRA Wiz supports silent installations.
2. **What services run on the Windows server?** Services that need to run on the CRA Wiz Server are:
  - SQL Server
  - SQL Server Browser
  - Print Spooler
3. **Are there other services needed besides SQL Server?** No other services, including a web server (e.g. IIS), are needed for standard CRA Wiz. (Browser Based – Editing or HMDA/CRA Dashboards do require an IIS server)
4. **Is the data layer running under the direction of an outside software (MTS or something else)?** The data layer does not run under the direction of outside software such as MTS.
5. **Is Citrix Metaframe supported?** Yes, it is tested and supported. Only the client components should be installed on the Citrix machine and it only needs to be installed once regardless of the number of licensed CRA Wiz users. The database engine (SQL or EXPRESS) and the CRA Wiz Server installation package should be installed on a separate machine regardless of configuration (true client/server or stand-alone workstation). WKFS provides special instructions for installing CRA Wiz in a Citrix environment and these can be downloaded from [https://31063cd816e9f784ee2a-e9a419cf56b5a33635f60c6680924fe5.ssl.cf5.rackcdn.com/Misc%20Documents/Citrix\\_Install.pdf](https://31063cd816e9f784ee2a-e9a419cf56b5a33635f60c6680924fe5.ssl.cf5.rackcdn.com/Misc%20Documents/Citrix_Install.pdf)



6. **Does CRA Wiz run on a 64-bit operating system?** Yes, 64-bit environments are supported.
7. **Is SQL or Windows clustering supported?** WKFS supports active/passive clustering. Active/Active clustering is not supported.
8. **In regards to SQL Server, do you support Named Instances?** Yes, Named instances are supported.
9. **Does CRA Wiz utilize the Internet? If so, can it be turned off? What is the URL?** Yes, WKFS utilizes the main screen in CRA Wiz to communicate with clients on various issues that affect the industry as well as release information, industry alerts, etc. This feature can be turned off in the system maintenance settings screen if you prefer for your end users to not view this active content. The URL is <https://www.pcidownloads.com/crawiz/6.0MainscreenLeft.html>
10. **Are plug-ins required?** Not for CRA Wiz as reports generated by CRA Wiz are in HTML format.
11. **Does the CRA Wiz installation require the system to be re-booted?**

Server Installation - Installation of CRA Wiz software does not require the machine to be re-booted.

Client Installation - Installing client files for CRA Wiz requires the workstation to be re-booted.



12. **Is there a fail over design?** CRA Wiz can accommodate SQL Server fail over configuration, but it is not required

13. **What is the default sort order for your databases?** The primary data tables are optimized for performance with clustered and non-clustered indexes depending on the type of data in the file.
14. **How often should back-ups be performed?** WKFS recommends backing-up data files whenever significant modifications are performed to the files and prior to any software, database(s), Windows or SQL Server update or install.
15. **What databases need to be backed up?** A DBA at your institution will need to develop a recovery strategy, based on organizational guidelines and best practices. Specifically, USCensus and Procedures are read-only databases and are only changed when running product updates provided by WKFS. Therefore, only General, Objectstore, and your Wiz\_XXXXX databases need to be backed up regularly. Since both General and Objectstore need to be synchronized, it is recommended that if either of these two gets corrupted, both be restored to a previously known good state.
16. **Can CRA Wiz automate the truncation of the transaction logs?** CRA *Wiz* can automate the truncation of the transaction logs to avoid overgrowth.
17. **How much hard drive space do I need for my LAR files?** WKFS benchmarking indicates 200,000-300,000 records per year will require 1 GB of hard drive storage per year of data. However, this need can quickly grow if the user maintains multiple copies of data files as part of their monthly processing.
18. **What is the size of the Database files after 12 months?** The size of the database files are determined by the institution's number of records imported, number of columns, size, & type of user-defined fields. CRA *Wiz* does provide an option to restrict file size.
19. **How do we properly and completely uninstall CRA Wiz?** First uninstall the CRA *Wiz* Client and Server, then drop all the databases with a prefix of 'Wiz'.
20. **Where are the software's log files captured? Client? Application Server? Database Server? Everywhere?** There are various log files for different functionality. Most of the log files are stored on the client but the database log files (.LDF files) are stored on the server as installation logs for each install or update to the server.
21. **When a user performs their analysis, do those functionalities run on the client? Even if the data is on the server?**  
Much of our analysis is built into the SQL stored procedures that take place on the SQL Server. However, some of our Fair Lending and CRA *Wiz* analysis is run on the client side using VB and FoxPro technology.
22. **Are the DLLs related to the batch geocoding functionality required to be installed on the SQL server?** Most institutions have chosen to maintain the DLLs on the SQL server for performance and maintainability reasons however; there are three other options if your institution has restrictions concerning what can be installed to the SQL server.

**Option 1 - Use the Geocoding Web Service**

WKFS offers a Geocoding web service installation that can be installed to a web server. CRA *Wiz* will then call the web server to do all the batch geocoding and no dll files need to be installed to the SQL Server itself. For more information on the Geocoding Web Service, please contact your account representative.

**Option 2 - Use client-side geocoding**

There is an .ini file that can be altered so that all the batch geocoding is processed on the client side. For large files you will see a performance impact on the client machine while conducting geocoding and you will be required to maintain the Geocoding Data in a location that is accessible to all clients, so this process is not recommended. It is however a viable solution for institutions who cannot load dll files to the server.

**For more information on implementing Option 2, please see Appendix D: Instructions for Configuring Client-Side Geocoding.**

**Note:** While either of the processes mentioned above will enable batch geocoding without requiring the DLL files to be installed on the server, the CRA *Wiz* installation cannot be altered to eliminate these DLL files. In order to remove them, you will have to manually delete the following folder: **C:\Program Files\Common Files\PCI Common\Geocoder Shared.**

The DLL files listed below are those included on the server.\*

- Batchind.exe
- CRAWizConnector.dll
- DPV.dll
- FileMap.dll
- geo.ini
- Geocoder.exe
- geostan.lic
- Geostn32.dll
- Geostn32.lib
- Geostn32MT.dll
- Geostn32MT.lib
- geotest.exe
- gsdsplit.ini
- gsdsp32.exe
- GsNetInterop.dll
- lacs.dll
- MapXtremeDesktop.lic
- Microsoft.ApplicationBlocks.Data.dll
- PCi.BatchGeocoder.Common.dll
- PCi.BatchGeocoder.QueueManager.dll
- PCi.BatchGeocoder.QueueProcessor.dll
- PCi.BatchGeocoder.Service.exe
- PCi.BatchGeocoder.Service.exe.config
- PCiAMSvr.dll
- PCiAMSvr.ini
- PCiBatchOOP.exe
- STELINK.dll
- xxf.su\$
- xxl.su\$

\* - This list excludes anything from 3<sup>rd</sup> party installations that the server installation runs.

### **Option 3 – Use WKFS’s geocode outsourcing**

WKFS Geocode Outsourcing allows you to automatically upload your files to an FTP server that we can then receive and geocode for you. Once the records have been geocoded, we can provide you with the results through the WKFS Geocode Outsourcing Wizard which will automatically query the FTP server for the results file. If you have further questions about this option, please contact your account representative about pricing and information.

### **23. Do you have any benchmarks on the difference in performance when batch geocoding is performed on the Database or Application Server versus the client?**

Example 1: Geocoded a file with 2940 records

Database Server: 01:00 minute

Client Side: 06:38 minutes

Example 2: Geocoded a file with 107,165 records

Database Server: 18:00 minutes

Client Side: 40:47 minutes

While we do not have specific benchmarks for processing on an Application Server, the results would be comparable to those of the Database Server.

## Authentication, Passwords & Security

1. **Explain the authentication process and how authentication occurs?** CRA *Wiz* uses its own username and password authentication to certify a specific instance of a client. Once certified, the client uses a hidden SQL Server authenticated username and encrypted password for accessing data. The username and password are retained for the duration of the session.
2. **Can Windows Authentication be used rather than SQL Server Authentication?** Windows Authentication is supported by CRA *Wiz*. The Windows Authentication requires two Active Directory groups that specify the CRA *Wiz* Administrators and the CRA *Wiz* Users. Once these groups have been identified, they must be added to a table in the ObjectStore database. See question below for more detail.
3. **Will the application require any Active Directory Schema changes for interoperability?** CRA *Wiz* does not rely on active directory, and there are no changes required. However, CRA *Wiz* can take advantage of Active Directory groups for its user authentication.

If you are interested in Active Directory go to the following URL:

[https://31063cd816e9f784ee2a-e9a419cf56b5a33635f60c6680924fe5.ssl.cf5.rackcdn.com/Utilities/Active\\_Directory.zip](https://31063cd816e9f784ee2a-e9a419cf56b5a33635f60c6680924fe5.ssl.cf5.rackcdn.com/Utilities/Active_Directory.zip)

Within the zip file, it will contain:

- 1) The Active Directory setup instructions document
- 2) The utility to assist the customer's IT group to determine what data string to enter into the Objectstore DB for CRA *Wiz* to recognize the Active Directory groups.

If you need assistance, please contact technical support at (800) 261-3111 or [CRAWizSupport@wolterskluwer.com](mailto:CRAWizSupport@wolterskluwer.com).

4. **Why is “sa” needed for this application?** SA is not needed for this application. During setup, the software does require connection to the database server using an Admin level login and password.
5. **How do the CRA *Wiz* SQL database logins interact?**

**Installation Admin level requirement: An administrator login.** The installation program asks you to provide an administrative level username and password or select Windows Authentication (for a user logged in with admin rights) in order to configure the objects in the databases. This username is used only during installation, to create the installation databases and the two other logins that will interact with our program (mentioned below).

**Primary data access account: An administrator level login, created by the installer of the software during installation.** The installer indicates a new username and password to be created during the installation process. We recommend you record the username and password for future purposes. This login provides the program with primary access to the databases during runtime. This login is the owner of all the databases used by the CRA *Wiz* program, and has rights to create/drop databases used by our program (each LAR is stored as a separate database). This login has public rights in the master database, but other than that does not have rights on any databases other than the ones used by the CRA *Wiz* program. The end user of CRA *Wiz* never directly uses this account. It is only accessed through the CRA *Wiz* client. There is no "back door" for an end user to get into any other databases with this login from the program. You can see this login and its rights using a SQL tool such as SQL Server Management Studio.

**CRA *Wiz* authenticator account:** A low level login named "crawiz", created by the program during installation and used by the software to authenticate the CRA *Wiz* username and password. The end user never sees this login, and it is only used to validate the end user's CRA *Wiz* username and password. To clarify, when the end user accesses the CRA *Wiz* software, they are required to log in using a CRA *Wiz* application username and password. The CRA *Wiz* username/password combinations are stored in an encrypted table, and the "crawiz" SQL login is used only to connect to that table and validate the end user's username and password, and if validated, return to the client, in encrypted format, the primary CRA *Wiz* access username and password. *This login has no rights to any other databases. This account must exist, and is not configurable by users.*

6. **What security is applied to each new database that is created in the SQL Server side of *Wiz*** Each new database that is created in CRA *Wiz* is created using VB Code. The application uses the primary data access account to both create and interact with that database using the role of

DB\_Owner. By default this user is titled Wizuser, but it can be made into a custom account during the initial install. The standard SQL database of Model is used as a base for the creation of all new databases.

Each user must authenticate with CRA Wiz, this is done either with a CRA Wiz username and password or Windows Authentication if Active Directory integration is enabled. This authentication takes place between the client and the server using the 'crawliz' account, a low-privilege account that has permissions only for stored procedure execution. This process is used to simply validate the users username and password against the encrypted values in the Objectstore database. Once this completes, the 'Wizuser' account is used to manage all further database connections between the client and the server.

7. **Can the password be changed? Is this automated or does it require manual intervention?** Passwords have a minimum length of six characters. Passwords are stored in an encrypted table and are passed using 128-bit encryption. Only the CRA *Wiz* "client" passwords can be set to automatically change. There is also a feature to auto-change the high-level backend user's password on a regular basis.
8. **How is database security configured, SQL security or NT security?** CRA *Wiz* uses SQL Server security, so the SQL Server should be in the 'Mixed' mode: 'Mixed' means both SQL and NT. Windows authentication is not currently supported.
9. **Do the users need to log onto the NT domain in order to access their data?** The communication between the CRA *Wiz* Client and Server does not require someone to be logged into an NT domain.

## CRA *Wiz* Processes

1. **Does the application export data to any external sources? (ex. Actuate reporting server) If so, list all sources and contacts.** Data can be exported from CRA *Wiz* in the following formats: Excel, ASCII, DB IV, text, Access, and SQL Server.
2. **User Defined Fields: Is there a limit to the number of (user-defined) fields one can have in a LAR? Can all user-defined fields be indexed? Does *Wiz* have ability to use Lookup tables for user-defined fields?** The limit is 1024 total fields, including HMDA/CRA required fields. User-defined fields can be indexed and referenced. Codes can be built for user-defined fields to serve as a reference look-up table.
3. **Is there a limit to the number of records and fields in a file? What is the limitation (if any) to the number of characters in both text and memo fields?** Constrained by max number of columns/fields (1024) and max size of database (1,048,516 TB). Characters – 8000, Memo – 2GB.
4. **Can CRA *Wiz* handle 225 fields and 3 million rows?** Yes. CRA *Wiz* is restricted only by the data handling of the licensed SQL Server configuration.
5. **How does import/update modify existing records?** Through DTS transformations that are defined in the import format. User selects which fields they want updated on original record as part of the import process.
6. **How is the expression builder built? Where/how are saved expressions stored?** It is a VB control that has direct editing capabilities for T-SQL and VB Script. Saved expressions are stored in a table within the CRA *Wiz* SQL Server database structure.
7. **Does CRA *Wiz* generate e-mail messages?** No.
8. **How are custom edits stored?** Stored in a table in the CRA *Wiz* database structure.
9. **When a report is generated using HTML format, is it stored on the server or sent back to the client for storage?** Users can set a default publishing location for their HTML reports. This can be any folder or network location.

## Appendix A: Tables in CRA Wiz Databases

General	ObjectStore	USCensus	Wiz_XXXXX
VirtualVariables	wiz_default_codes	Zip_data	PROPERTIES
VirtualCodes	wiz_context	USCnty99	LARData
VarOrder	wiz_activity_years	USCnty98	InstitSummary
UPDATESTATUS	wb_Workbooks	USCnty97	DistinctSummary
SBFCCodes	wb_Props	USCnty96	CRA_Area
SavedAreasTemp	UserTabFields	USCnty18	Codes
SavedAreas_data_Snapshot	UserTab	USCnty17	
SavedAreas_data	transm_sheet	USCnty16	
ReferenceRate	submission_address	USCnty15	
RaceByLastName	SRCCReg	USCnty14	
OTHRCodes	SM_Users	USCnty13	
OptionalVars	SM_Settings	USCnty12_DATA	
MORTCodes	SM_Passwords	USCnty11_DATA	
MATCHCOD	SM_Operations	USCnty10_DATA	
map_UserSettings	SM_Data	USCnty09	
Institute	SavedFilters	USCnty08	
HMZ4Codes	SavedFilterFolders	USCnty07	
HMPRCodes	savedata	USCnty06	
HMDFCodes	SavedAreaFolders_data	USCnty05	
HMDACodes	SavedAreaFolders_backup	USCnty04	
H4PRCodes	ReportParent	USCnty03	
GrpLndrs	ReportParameter	USCnty02_data	
Geo_InvalidFIPs	ReportInterface	USCnty01_data	
Gender	ReportDefinition	USCnty00_data	
FLW_ScoringVariables	ReplaceInfo	Uscensus_data	
FLW_SavedModels	RATA_V_Patterns	tran2010	
FLW_M6_DEMOG_Mapping	RATA_Results	tran2000	
FLW_FactorParent	RATA_Init	SuppEmpRlsm	
FLW_Factor	RATA_Activity	state_data	
FLW_ApplicantCharateristicsParent	PROPERTIES	RPO_ZIP	
FLW_ApplicantCharateristics	PricingFactors	ProjectedDemog15	
FLW_AnalysisGroupUserClasses	PolicyMapUploadQueue	ProjectedDemog14	
FLW_AnalysisGroupUserAggregated	outsourc_geo_file_info	ProjectedDemog13	
FLW_AnalysisGroups	outsourc_geo_config	ProjectedDemog12	
FLW_AnalysisGroupInstituteClasses	outgeo_utility_log	ProjectedDemog11	
FLW_AnalysisGroupInstituteAggregated	outgeo_file_info	ProjectedDemog10	
FLW_AnalysisGroupDefaultClasses	outgeo_config	ProjCnty15	
FLW_AnalysisGroupDefaultAggregated	OCC_Wizard	ProjCnty14	
FLW_AnalysisGroupCodes	OCC_Qualify	ProjCnty13	
EthnicityByLastName	OCC_Map_Area	ProjCnty12	
DPPRCodes	OCC_Deposit	ProjCnty11	
DepsCodes	OCC_Data	ProjCnty10	
DemogVars_data	map_MapsThemes	MSACMP90	
CraTables_SavedModels	map_MapsLayers	MSACMP10	
CRAErrors	map_Maps	MSACMP00	
ConsCodes	map_MapProps	msa99_data	
CensusBlockRace2000	map_Layouts	msa98_data	
CensusBlockRace	map_Defaults	msa97_data	
BusiCodes	map_CustCords	msa96_data	
BSPRCodes	map_CustCordPoints	msa95_data	
BatchGeoStatus_InstallBackup	map_BranchDeposit	msa94_data	
BatchGeoStatus	LAR_TypeInfo	msa93_data	
BatchGeoSettings	LAR_Tree	MSA18_data	
BatchGeoError	LAR_Permissions	MSA17_data	
AutoCodes	LAR_Items	MSA16_data	
	LAR_Default_Order	MSA15_data	
	InstitutionPolicyMap	MSA14_data	
	INSTALL_INFO	MSA13_data	
	INSTALL_ERROR_LOGS	MSA12_data	
	ImportDefin_backup	MSA11_data	
	ImportDefin	MSA10_data	
	id_pool	MSA09_data	
	HOTFIX_INSTALL_INFO	MSA08_data	
	ExportDefin	MSA07_data	
	ElementLocations	MSA06_data	

	ElementList	MSA05_data	
	CustomVariables	MSA04_data	
	CustomReports_Tree	MSA03_data	
	CustomReports_Items	MSA02_data	
	CustomLar_Report	MSA01_data	
	ct_Props	MSA00_data	
	ct_IgnoreVars	EmpRLS	
	ct_CustomTables	EmpRELS	
	ct_CodeTableInfos	EconPermit	
	cra_version_info	county99_data	
	cr_SUBM_LAR	county98_data	
	cr_ReportSPRegistry	county97_data	
	cr_micro_lr_report_params	county96_data	
	cr_lr_report_params	county95_data	
	cr_h_lar_report_params	county94_data	
	cr_h_detail_2004_params	county93_data	
	cr_geocoding_exception_params	County18_data	
	cr_exception_summary_params	County17_data	
	cr_exception_record_params	County16_data	
	cr_exception_detail_params	County15_data	
	cr_customlar_report_params	County14_data	
	cr_audit_summary_report_params	County13_data	
	columnMapInfo	county12_data	
	Approveddenied	county11_data	
		county10_data	
		county09_data	
		county08_data	
		county07_data	
		county06_data	
		county05_data	
		county04_data	
		county03_data	
		county02_data	
		county01_data	
		county00_data	
		CongDist	
		CensustractsUS_data	
		BusinessPatam	
		BusDemog15	
		BusDemog14	
		BusDemog13	
		BusDemog12	
		BusDemog11	
		BusCnty15	
		BusCnty14	
		BusCnty13	
		BusCnty12	
		BusCnty11	
		aggr_state_data	
		aggr_county_data	

## Appendix B: DLLs Installed

Following is a list of the DLLs that are installed on the CRA *Wiz* Server **Program** folder:

- Batchind.exe
- CRAWizConnector.dll
- DPV.dll
- FileMap.dll
- Geo.ini
- Geocoder.exe
- Geostan.lic



- Geostn32.dll
- Geostn32.lib
- Geostn32MT.dll
- Geostn32MT.lib
- Geotest.exe
- Gdspt32.ini
- Gdspt32.exe
- GsNetInterop.dll
- Lacs.dll
- MapXtremeDesktop.lic
- Microsoft.ApplicationBlocks.Data.dll
- PCi.BatchGeocoder.Common.dll
- PCi.BatchGeocoder.QueueManager.dll
- PCi.BatchGeocoder.QueueProcessor.dll
- PCi.BatchGeocoder.Service.exe
- PCi.BatchGeocoder.Service.exe.config
- PCiAMSvr.dll
- PCiAMSvr.ini
- PCiBatchOOP.exe
- STELINK.dll
- Xxf.su\$
- Xxl.su\$

**NOTE:** This does NOT include files installed by “MapXtreme v7.0.0 Runtime NCP.msi” which is run on the server.

**These are the self-registering DLLs:**

- C:\Program Files\Common Files\PCi Common\Geocoder Shared\PCiWizGeo2.dll
- C:\Program Files\Common Files\PCi Common\Geocoder Shared\PCiAMSvr.dll
- C:\Program Files\Common Files\PCi Common\Geocoder Shared\PCiBatchOOP.exe
- C:\Program Files\Wolters Kluwer\CRA Wiz and Fair Lending Wiz 6.6
- SP3\Bin\RataExportImport.dll

## Appendix C: Installation Components Information

### Databases:

There are a minimum of 5 databases installed to the SQL Server (CRB, Procedures, General, ObjectStore, & USCensus)

There are additional databases depending on what the purchaser is licensed for (these databases are labeled *Wiz\_XXXXX*). They include such things as sample files, branch data, deposit data, etc.

### Applications/Services/Components:

During the CRA Wiz installation process a few third-party application packages that provide functionality are installed.

These include:

- ActiveX Data Objects 2.8 (ADO)
- Data Transformation Services (DTS)
- Visual FoxPro 9.0 runtime
- Visual FoxPro 7.0 runtime
- Visual FoxPro 6.0 runtime
- Visual Basic 6.0 runtime
- DynaZip runtime (3rd Party Vendor)
- MapX 5.0 (MapInfo)
- MapX 7.0
- Microsoft Scripting Host 5.6
- Crystal Reports
- MeadCo's SMSX Print Control 6.5
- .NET Framework 3.5 SP1
- SQL Server 2005 Backward Compatibility Components
- System CLR Types for SQL Server 2012
- Report Viewer 2012

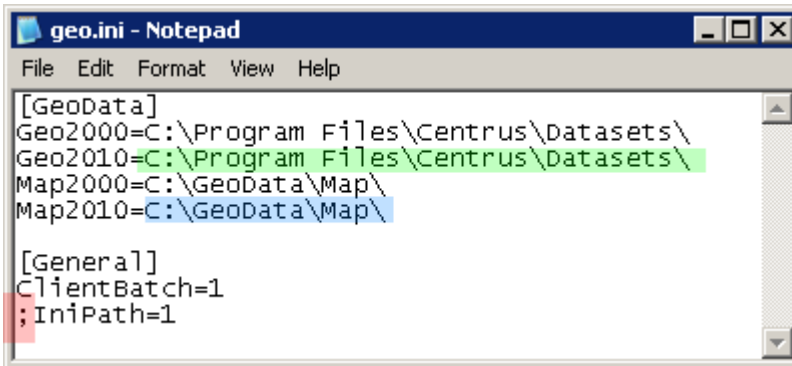
## Appendix D: Instructions for Configuring Client-Side Geocoding

The following documentation provides step by step instruction for configuring your system to perform client-side Geocoding. This configuration is not recommended for all institutions, but it provides a work around to those who have restrictions about what can be installed on their SQL server.

Note: As described in the FAQ Section above, institutions who implement this configuration should expect a performance impact on the client machine while batch geocoding is being processed.

Prerequisite: Users must have the Geocoding Address Data installed on the client machine.

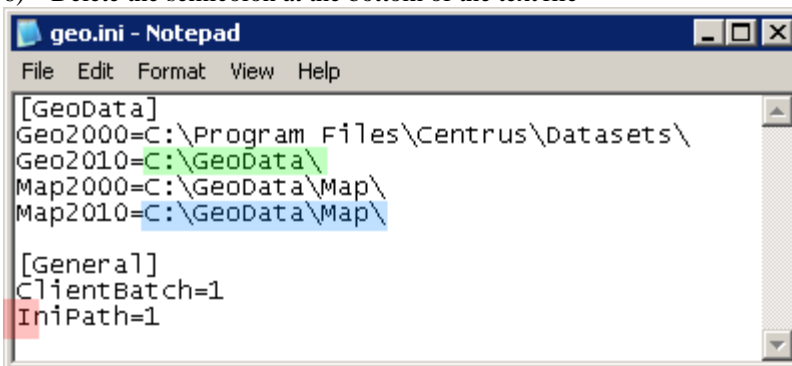
- 1) Copy the geo.ini file from your "...Common Files\PCi Common\Geocoder Shared\" folder to your "...Program Files\Wolters Kluwer\CRA Wiz and Fair Lending Wiz..." folder
  - a. Overwrite if asked
- 2) Open the new geo.ini file in your "...Program Files\Wolters Kluwer\CRA Wiz and Fair Lending Wiz 6.6 SP#\\" folder with the text program of your choice (Notepad is used for this demonstration)



```
[GeoData]
Geo2000=C:\Program Files\Centrus\Datasets\
Geo2010=C:\Program Files\Centrus\Datasets\
Map2000=C:\GeoData\Map\
Map2010=C:\GeoData\Map\

[General]
ClientBatch=1
;IniPath=1
```

- 3) Notice the three highlighted areas
  - a. The folder location for your 2010 geocoding data (highlighted in green)
  - b. The folder location for your 2010 mapping data (highlighted in blue)
  - c. The semicolon before the “IniPath=1” row (highlighted in red)
- 4) Replace the Geo2010 path with your Folder Path (C:\GeoData\ for this demonstration)
- 5) Replace the Map2010 path with your Folder Path (It was already correct for this demonstration so left as C:\GeoData\Map\)
- 6) Delete the semicolon at the bottom of the text file



```
[GeoData]
Geo2000=C:\Program Files\Centrus\Datasets\
Geo2010=C:\GeoData\
Map2000=C:\GeoData\Map\
Map2010=C:\GeoData\Map\

[General]
ClientBatch=1
IniPath=1
```

- 7) Once these destinations are correctly pointing to your Geocoding and Mapping data and the semicolon is missing from the last line you are ready to batch geocode locally