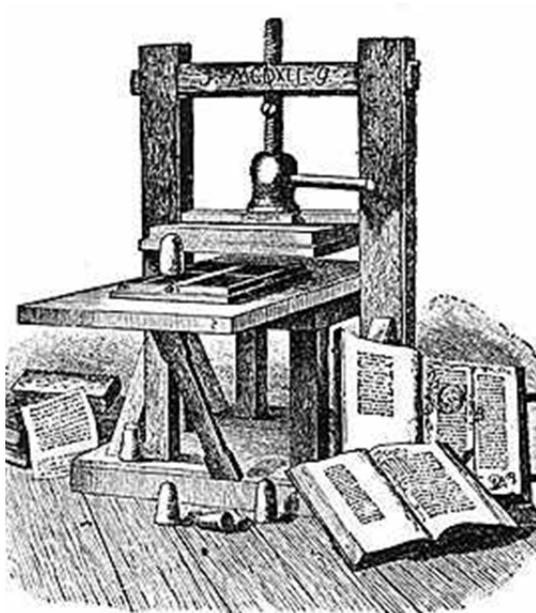


Sync User Guide



February 15, 2011

RCO

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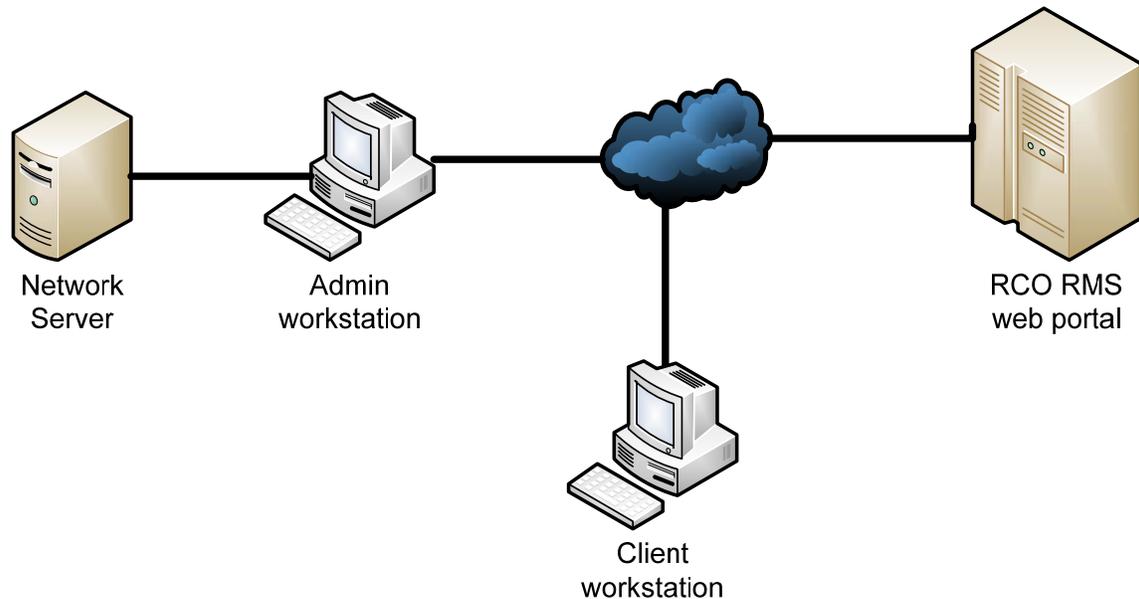
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1 Introduction

This document describes a java application that resides on an administrator's desktop workstation. The application copies and encrypts files on the local system (most likely located on a local network server) to the RCO web RMS portal as shown in the following figure.

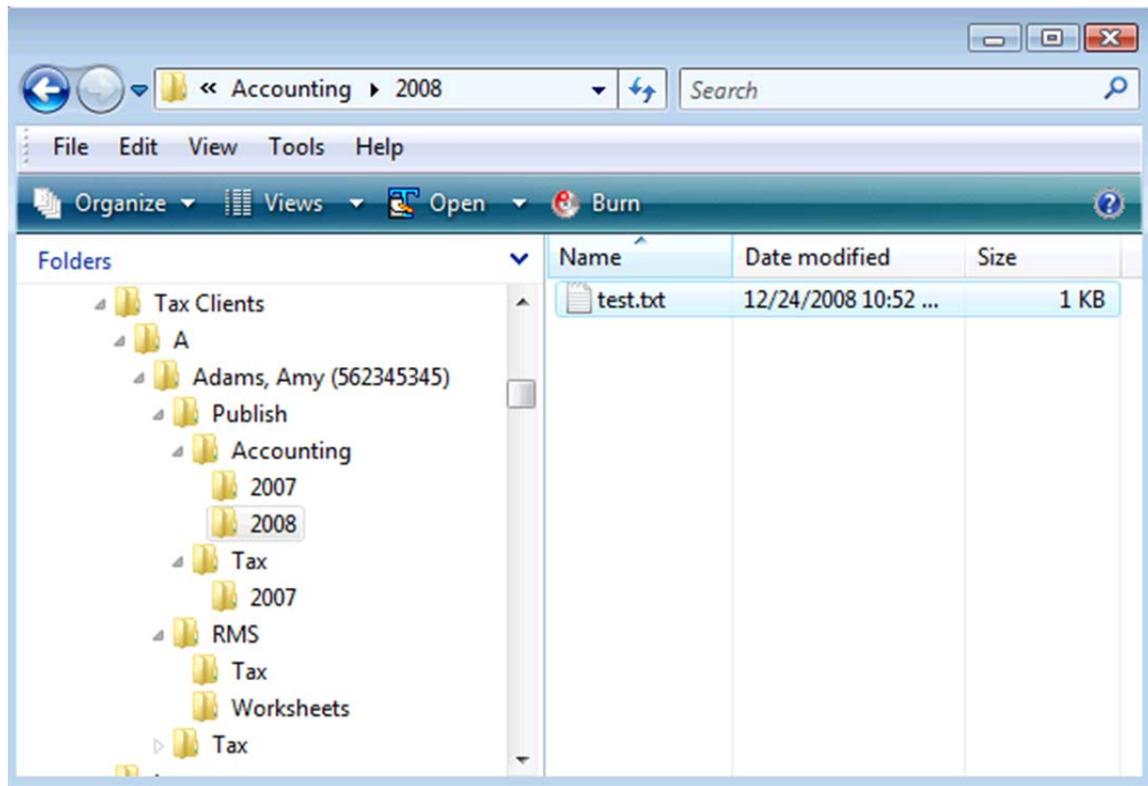


The purpose of the application was designed to serve the needs of accounting firms that want to publish and receive electronic files with clients securely.

The sync program first uploads all the files in the Publish folders on the network server to the web storage folders. Then the sync program download any new files from the client's folders and also from the RMS web storage folders.

When clients upload files to the RMS server and the sync program is run the files on the network server get updated or added to files under the Publish folder. The same is true for files uploaded by client staff the RMS folder under a client's folder.

There is a main root subdirectory for the client data folders as shown in the following directory. The number in parenthesis is the client social security number but the system should allow any other unique number.



Each client has a set of folders called Publish which should be visible to the client while the RMS folders are only to be seen by staff members that have an appropriate decryption key. All other folders are used for internal work.

Everything under the folder Publish is information that the client shares with the accounting firm and is encrypted. The encryption can be done with auto encryption using the client's password. Note that the publish program reads a clientpassword.csv stored on the local system. If the password is not the same as the user's logon password then they have to supply a key when downloading the information! In addition then the administrator should only show the key encrypt and key decrypt buttons.

Everything under the RMS folder is private working material used by the accounting firm. These files are encrypted using the RMS password field for each client. The accounting firm's staff has to supply a key when downloading any information.

All other folders under a client are not published to the portal and are completely internal to the firm.

Clients are organized into groups and there is a letter folder A-Z and possibly numbers to differentiate the clients. Client folders are organized by Last Name, First Name

2 Document History

<i>Doc</i>	<i>Name</i>	<i>Date</i>	<i>Description</i>
<i>sync1</i>	Roy Nabel	12/24/2008	Creation
<i>sync2</i>	Roy Nabel	12/27/2008	Added messages
<i>sync3</i>	Roy Nabel	1/19/2009	Added storage folder & sync rules
<i>sync4</i>	Roy Nabel	1/24/2009	editing
<i>sync5</i>	Roy Nabel	2/11/2009	Added filter file; modified key file
<i>sync6</i>	Roy Nabel	2/11/2009	Added user password and more files
<i>sync7</i>	Roy Nabel	2/18/2009	Add system section & configuration file
<i>sync8</i>	Roy Nabel	2/27/2009	Added upload/download log files; added several fields to user interface
<i>sync9</i>	Roy Nabel	3/3/2009	Added sync rules and modified key file.
<i>sync10</i>	Roy Nabel	3/3/2009	Updated sync rules and added API section.
<i>sync11</i>	Roy Nabel	3/15/2009	Minor changes
<i>sync12</i>	Roy Nabel	3/27/2009	Added UI Origin, Operation and Delete
<i>userguide</i>	Roy Nabel	11/12/2009	Explained fields in the key.csv file
<i>syncuserguide</i>	Roy Nabel	12/4/2009	Added 2 new columns to key.csv for user and storage folder parent names.
<i>syncuserguide</i>	Roy Nabel	2/5/2011	Added Directory File Monitor

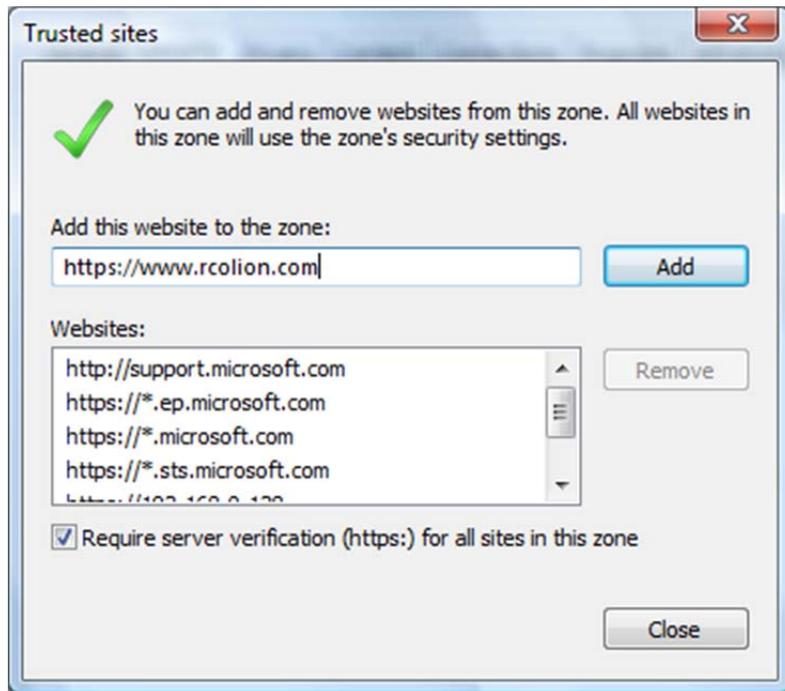
3 Setup

There are 2 setup programs you want to run. The first is the RCOPublish program and the second is the directory file monitor service. The directory file monitor is run on the same machine where you have the data located, typically an office file server. The RCOPublish program is typically run from an administrator's workstation.

Download the directory file monitor setup and the file sync setup from the following web address.

<http://www.rco.com/download/fileSync.html>

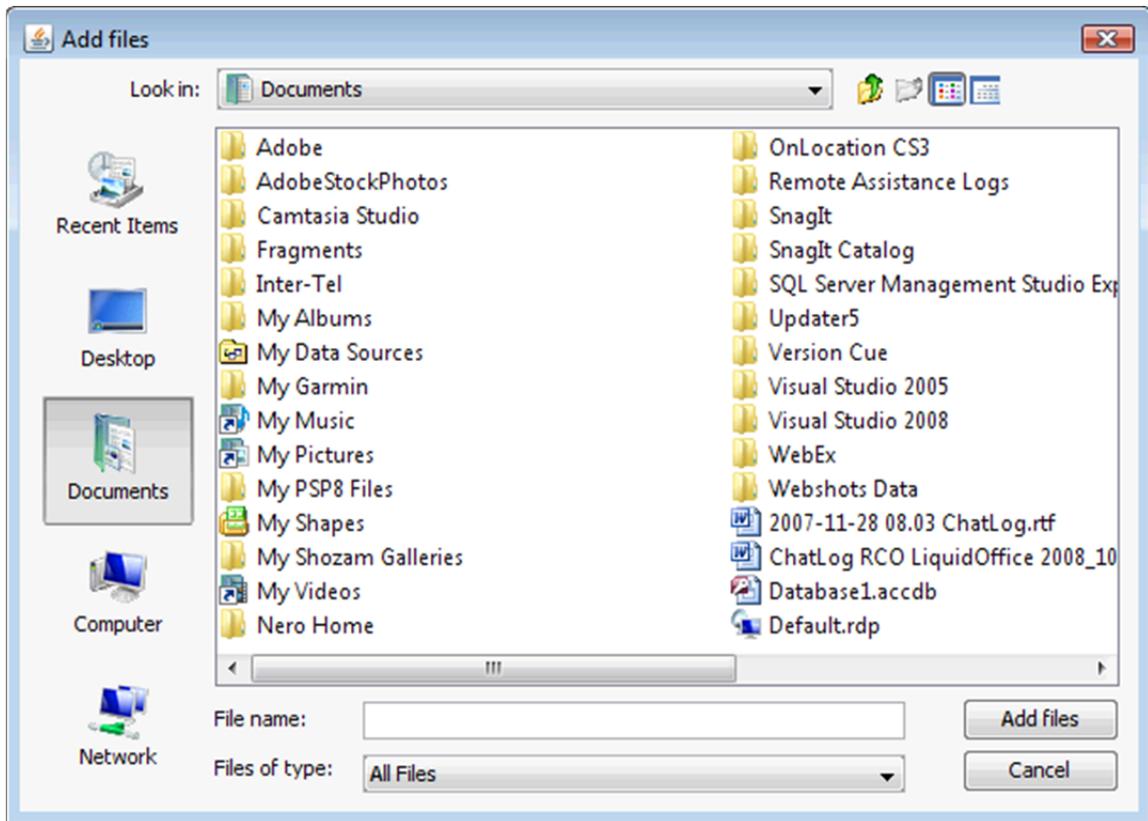
You need to enable port 8223 in your firewall and you need to add the following web site to your browser trusted sites. You also need to disable any popup blockers if you use the administrative interface.



4 Administrator Interface

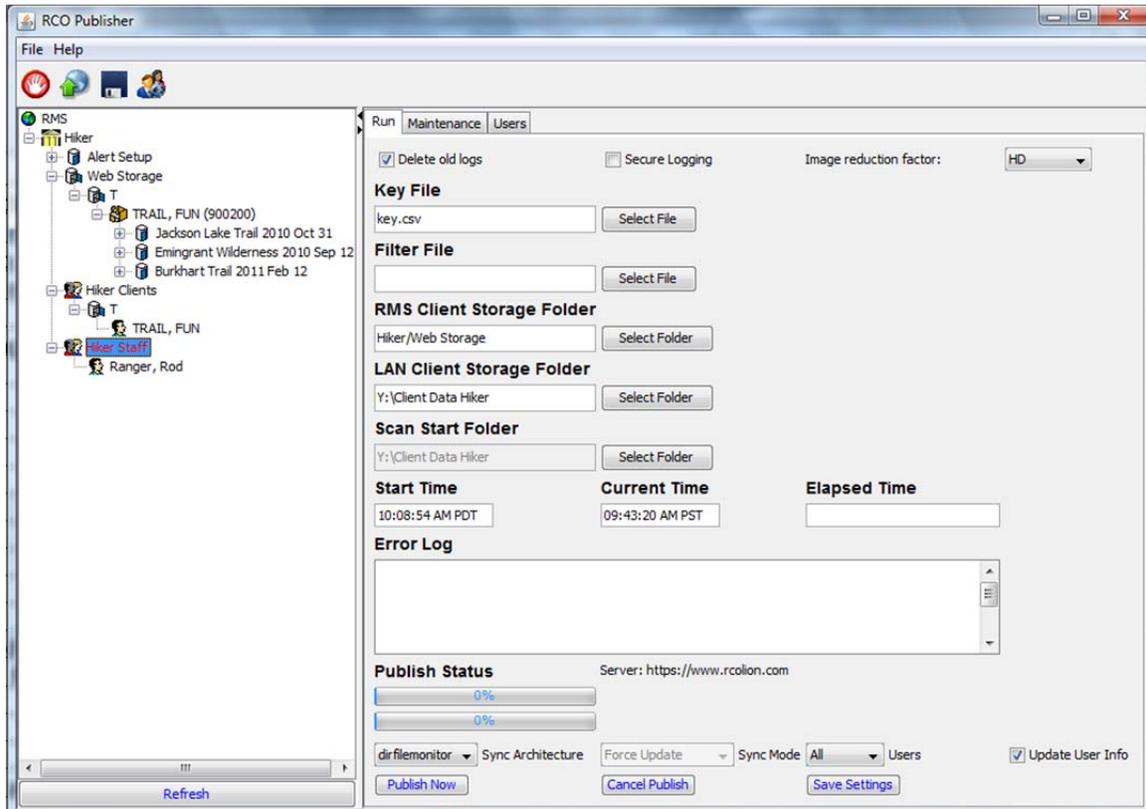
The screen has several different areas (menu commands, toolbar commands, directory, tab area). In the directory area you will see the structure of your organization.

To close the synchronize application click or red button with an X  in the upper right hand corner.



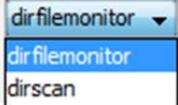
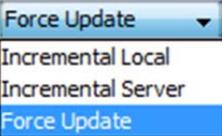
4.1 Run Tab

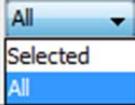
The run tab is where you control the publishing of files from your local network file system to the web server.



There are many settings on this page but once you get things setup you only use a few of the controls. The following table describes each of the controls.

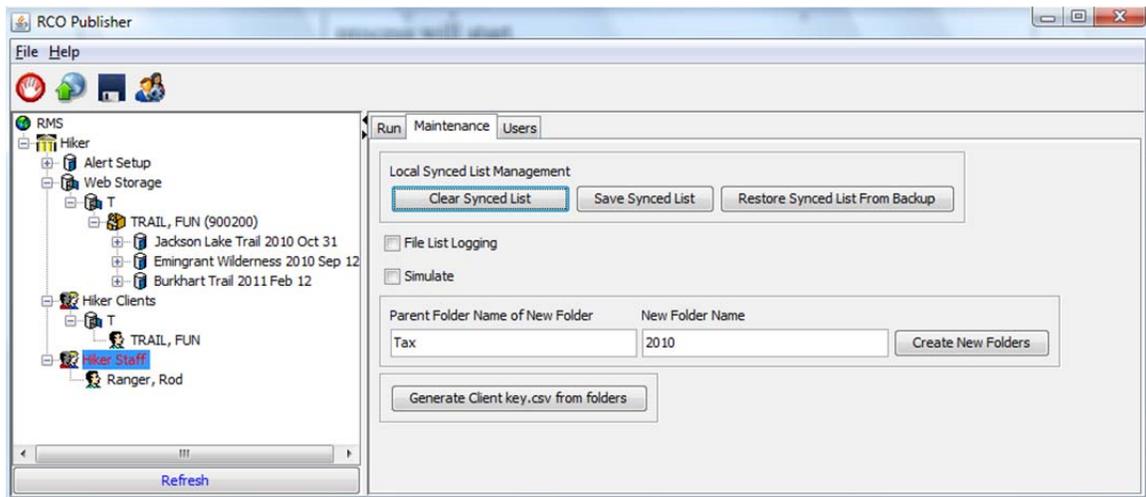
Name	Description
Delete Old Logs	If this check box is checked then the system will remove all files in the current log folder and create a new file for the current job started by pressing the Publish Now button
Secure Logging	This hides the Lan Folder Id in all the log files so that if you had a number like a social security number (we do not recommend this) it would not be shown.
Key File	The key file can be located anywhere but is normally found where the sync program resides. This file contains instructions on how to process all users and their files.
Filter File	This file contains a dos file wildcard (one per line) of the files you want to exclude form the synchronization process.
RMS Client Storage Folder	This is the RMS base folder name where you want files to get stored. Think of this as same base folder where you have your

	data files on your local system. For example on your local system you may have something like c:\Client Data and the default on the web is RMS\Your Company Name\Web Storage.
Lan Client Storage Folder	This is base folder on your local system where you have all your files stored under. For example on your local system you might have c:\Client Data.
New Folder Parent Folder Name	The system will look at the publish and hidden folders and then look for a folder that matches the new folder parent folder name at the end of the directory string.
New Folder Name	The new folder name will be created under the new folder parent folder name. For example A1\Web Storage\A\Adams Terry\Publish\Tax\2015
Create New Folders	When you click this button the system will create new folders on your local system.
Start Time	This is the time when you pressed the Publish Now button to begin the file synchronization process.
Current Time	This is the current system time.
Elapsed Time	This shows the total time from when you started the file synchronization process.
Error Log	This window shows any errors that occur during the file synchronization process.
Publish Status	When you press or click this button the file synchronization process will start.
Sync Architecture	<p>You have 2 choices here.</p>  <p>The dirfilemonitor mode is when you just want to publish just the new files that have been added.</p> <p>The dirscan mode is when you want to publish for the first time or you want to republish everything and make sure every file gets copied to the web server. If you pick this mode then you also have to pick one of the 3 sync mode choices.</p>
Sync Mode	<p>The sync mode combo box has 3 choices and is used when the dirscan sync architecture is chosen in the previous row.</p>  <p>Incremental local looks at the file prevsyncfiles.txt located in the RCOPublish folder and if the file on the local data drive is newer than the file date in the prevsyncfiles.txt the file gets published. Incremental Server looks at the file on the web server and use the coding field RMS Modified Timestamp and compares this with</p>

	<p>the time stamp on the local file. If the local file is newer then the file on the local file system gets published to the web server. Force Update mode tells the publish program to copy all the files. Note that if in the key.csv file the client is unchecked their files will not get copied to the web server.</p>
Users	<p>Use this with the update user info check box to update user information.</p>  <p>The Selected choice is when you only want to update user that have the included check box checked in the key.csv file. Use the All choice when you want to update all the users.</p>
Update User Info	<p>If this box is checked then depending on the users mode some or all of the user information in the key.csv file will get updated.</p>
Publish Now Button	<p>When you press or click this button the file synchronization process will start.</p>
Cancel Publish Button	<p>Pressing this button will stop the file synchronization process.</p>
Save Settings Button	<p>This button will save all the setting in the tab area.</p>

4.2 Maintenance Tab

The maintenance tab contains utility functions for the publish program. The buttons in the local synced list management pertains to the file in rcopublish called prevsyncfiles.txt. The clear synced list button clears this file. The save synced list button the restore synced list button allow you to copy the file to another location and then copy the file back.



The File List logging will create a log file for all files and is only used to debug problems so we suggest you leave this unchecked. The Simulate check box is used for internal testing and we suggest you leave this unchecked.

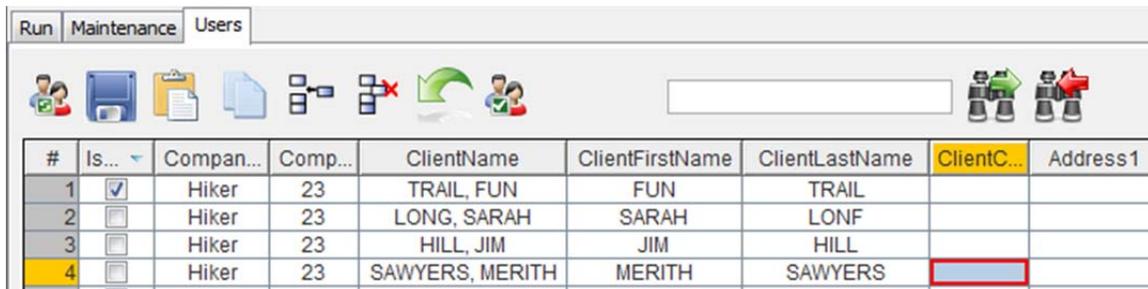
The function you will use the most on the tab is for creating folders on your local file system. Suppose you have two thousand clients and you want to create a new folder with the same name for each client. For example say you had the following structure and you wanted to create a new folder called 2010 on your file system. The parent folder name would be Tax and the new folder name would be 2010.

```

ClientName1 (client ID1)
  Publish
    Tax
      2008
      2009
ClientName2 (client ID2)
  Publish
    Tax
      2008
      2009
  
```

4.3 Users Tab

The user tab let you make changes to your client list by manipulating the user table rows and columns. Each row represents a client and the columns are data elements associated with each user. The toolbar buttons provide some of the more common commands for editing the table. There are also keyboard shortcut keys for each command.



The following table shows the description of each of the toolbar buttons.

Button	Name	Shortcut	Description
	Save	CTRL+S	Save the current data to the file key.csv
	Paste	CTRL+V	Copy the contents of the clipboard to the currently selected row or cell
	Copy	CTRL+C	Copy the current selected row or cell

	Insert Row	CTRL+I	Insert a row above the current row
	Delete Row	CTRL+D	Delete the currently selected row (s).
	Find Next	F3	Find the next occurrence of the string in the find edit box.
	Find Previous	F4	Find the previous occurrence of the string in the find edit box

4.3.1 Adding Clients

To add a client you are inserting a row into the user table by clicking on the toolbar

button  or using the keyboard shortcut Ctrl and Shift and +. You enter information into each of the cells that are required and then click the save button in the toolbar to store the information on your hard disk. Remember that you should back up your system on a regular basis.

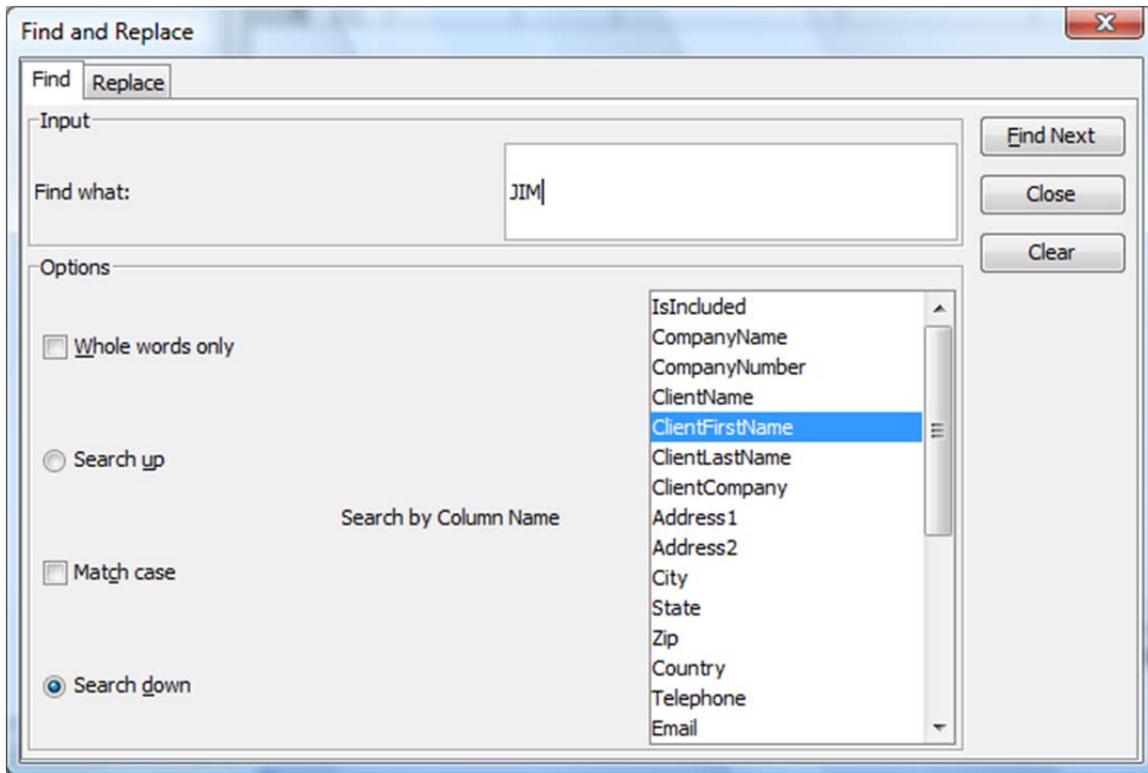
4.3.2 Deleting Clients

To delete a client you are delete a row from the user table by clicking the toolbar button

 or using the keyboard shortcut Ctrl and -. Use caution when deleting clients. You can use the undo keyboard shortcut Ctrl + Z if you decide that you did not want to delete the client.

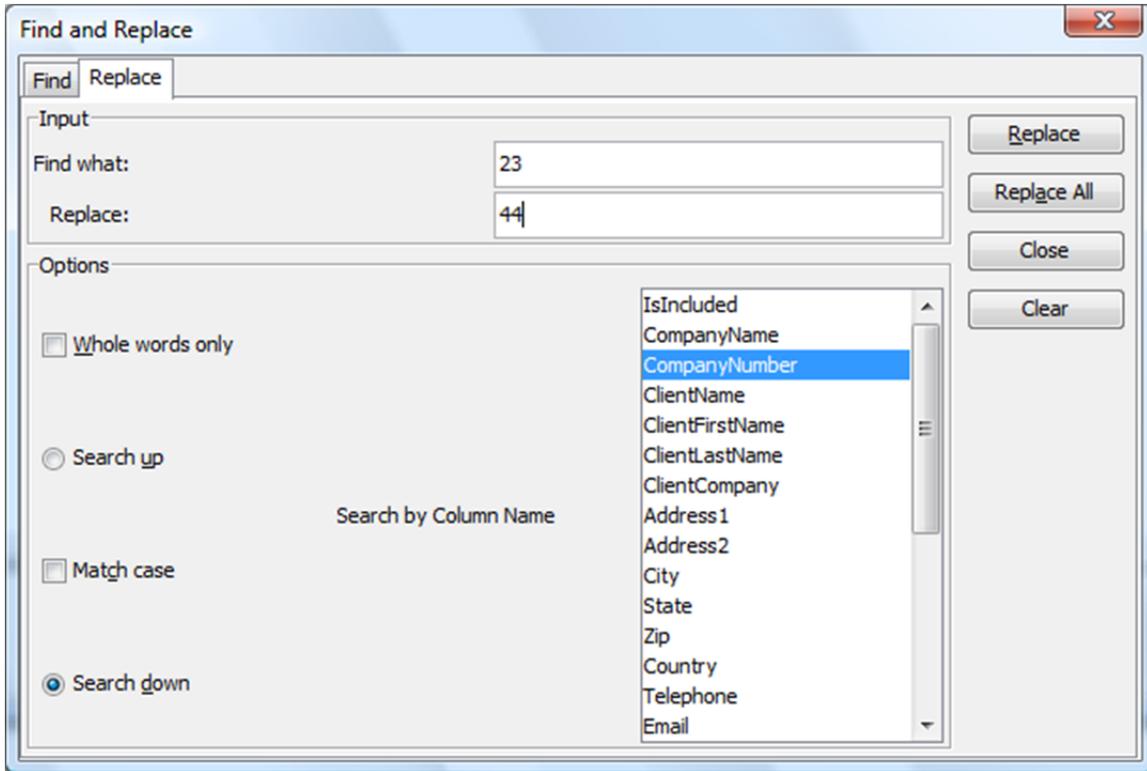
4.3.3 Finding Information

You can enter information in the toolbar find edit box in the toolbar or press Ctrl + F to display the find dialog.



4.3.4 Replacing Information

The replace dialog allows you to change the values of one or more cells. If you click your mouse in a column and then select search by column you can replace the find string by the replace string for that particular column. This is useful in the StaffId column when you want to assign different staff to clients. For example suppose Mary has a StaffId of 34 and you want Sue with StaffId 56 to take over Mary's clients while she goes on vacation.



4.3.5 Keyboard Shortcuts

The following table shows the keyboard shortcut keys for commands.

Function	Keyboard	Description
Find	Ctrl and F	Displays the Find and Replace dialog box,
Paste	CTRL and V	Inserts the contents of the Clipboard at the insertion point and replaces any selection. Available only after you have cut or copied an object, text, or cell contents.
Cut	CTRL and X	Cuts the selected cells
Repeat Last Command	CTRL and Y	Repeats the last command or action, if possible.
Undo	CTRL and Z	Uses the Undo command to reverse the last command or to delete the last entry that you typed.
Add Row	Ctrl and Shift and +	Insert a Row
Delete Row	Ctrl and -	Delete currently selected row // note we don't allow column deletes

You select a range of cells in the table using the keyboard. Sometimes you just want to select one column, or one row.

#	Is...	Compan...	Comp...	ClientName	
1	<input checked="" type="checkbox"/>	Hiker	23	TRAIL, FUN	
2	<input type="checkbox"/>	Hiker	23	LONG, SARAH	
3	<input type="checkbox"/>	Hiker	23	HILL, JIM	
4	<input type="checkbox"/>	Hiker	23	SAWYERS, MERITH	
Selecting one cell					
#	Is...	Compan...	Comp...	ClientName	ClientFirstName
1	<input checked="" type="checkbox"/>	Hiker	23	TRAIL, FUN	FUN
2	<input type="checkbox"/>	Hiker	23	LONG, SARAH	SARAH
3	<input type="checkbox"/>	Hiker	23	HILL, JIM	JIM
4	<input type="checkbox"/>	Hiker	23	SAWYERS, MERITH	MERITH
Selecting a range of cells					

The following table shows the keyboard shortcut keys for selecting cells.

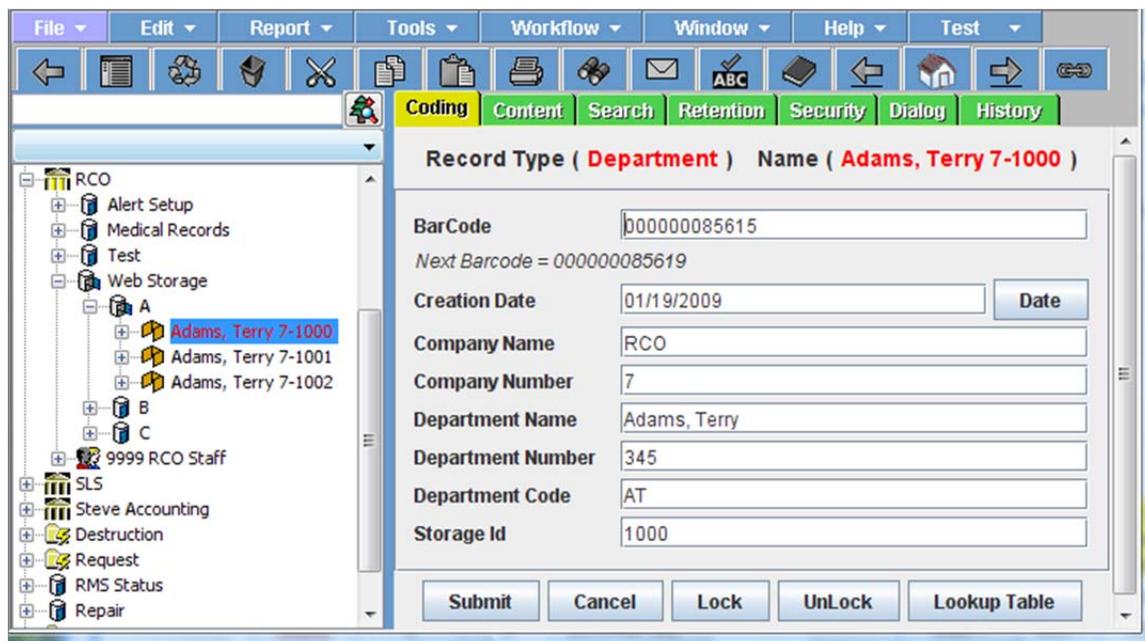
Function	Keyboard	Description
Select Column	CTRL and Spacebar	Select the entire Column
Select Row	SHIFT and Spacebar	Select the entire Row
Select Table	CTRL and A	Select Entire Table
Select Left	SHIFT and Left Cursor	Select all cells to the left of the active one
Select Right	SHIFT and Right Cursor	Select all cells to the right of the active one

The following table shows the keyboard shortcut keys for commands.

Function	Keyboard	Keyboard
Move Left	Left Arrow	One Cell Left (also SHIFT and TAB)
Move Right	Right Arrow	One Cell Right (also TAB)
Move Up	Up Arrow	One Cell Up
Move Down	Down Arrow	One Cell Down
Move Home	Home	Go to Start of row
Move End	End	Go to End of row
Move First	CTRL and Home	Go to Top of Worksheet (A1)
Move Last	CTRL and End	Go to End of Worksheet

5 Storage Folders

Note that the client storage area has a unique name that is composed of the Client Name and the company number concatenated with the storage id separated by a hyphen as shown in the following figure.



The company number is a unique required number supplied by RCO across all servers. The Storage Id is an auto number field that is unique for a particular server. The company number and the storage id are used in the key file to quickly find a directory record name.

Note that the sync program has to map a folder from the local system to the RMS uniquely. On the local system every folder is unique with client name (social security number) and a local folder maps to a web folder with client name company number-storage id.

6 Files

The client data files are located under a directory root folder normally located on a server computer. Each client has a folder has a name followed by (Client Folder Id). The Client folder Id must be unique identifier for all clients. Note that each local administrator will be supplied with a unique Tree Id for their web storage Client Folders. The Tree Id and the Client Folder Id provide a unique way to distinguish client names that match exactly.

The sync program uses several files to control the upload and download of files. All the files should be stored in the RCOPublish directory where the Jar file is located.

The key file contains several columns of data to encrypt the file, where to get/put the files on the web server and the local server.

The filter file blocks certain files from being uploaded.

There is an RCOPublishlog.txt file located in the RCOPublish directory which is used for diagnostics purposes. When a problem occurs with the sync program please email this to royn@rco.com along with a description of the problem.

There is a small startup file called config.txt and this should be located in the RCOPublish directory.

6.1 Configuration File

The configuration file called config.txt contains several name value pairs used by the program to perform functions as listed in the following table. For the most part you will never have to use a text editor to make changes to the configuration file. When you run the program and click the “Save Preferences” button the system will update the configuration file and sort all the entries.

Name	Description
AlertHomeFolderPath	This is the parent folder of where alerts are stored. When a file is uploaded a staff member will receive and email message. Example: A1/Alert Setup
AlertIdent	What type of event will trigger an alert email. Example: uploadfile
ClientStorageRecordType	Department Do not change this value
ClientUserClassificationScheme	alphabetic1 Do not change this value. Files are stored based on first initial of last name of the user logon
ClientUserGroupFolderPath	A1/A1 Clients
ClientUserRole	NormalUser
CodingFieldAlertEmail	Email
CodingFieldClientAddress1	Current Address1
CodingFieldClientAddress2	Current Address2
CodingFieldClientCity	Current City
CodingFieldClientCompany	Current Company
CodingFieldClientCountry	Current Country
CodingFieldClientId	Client Number
CodingFieldClientName	Client Name
CodingFieldClientPhone	Telephone
CodingFieldClientState	Current State
CodingFieldClientStorageClientUserAutoId	RMS Owner Id
CodingFieldClientUserAutoId	RMS User Id
CodingFieldClientZipCode	Current ZipCode
CodingFieldCompanyName	Company Name
CodingFieldCompanyNumber	Company Number
CodingFieldHelpUrl	Help URL
CodingFieldHomeUrl	Home URL
CodingFieldModifiedDate	RMS Modified on Date
CodingFieldModifiedTime	RMS Modified on Time
CodingFieldModifiedTimestamp	RMS Modified Timestamp
CodingFieldRecordSeriesCode	Record Series Code
CodingFieldSecurityCode	Security Code
CodingFieldStaffId	RMS User Id
CodingFieldUserEmail	Email

ConfigFileFullPath	C:\roy\workspace\RCOPublish\config.txt
DestructionMode	hard
FileRecordType	eFile
HelpUrl	http://www.RCO.com/Portal_Help.htm
HiddenSyncFolderName	Hidden
HomeUrl	http://www.RCO.com
HostName	www.rcofox.com
HostPort	443
HostWebRoot	Image2000
HttpProtocol	https
IconBaseUrlPath	./bin/com/rco/icons/24x24/actions
IsCreateFoldersSyncableOnly	true
IsDeleteOldLogFiles	true
IsEmptyHiddenEncryptKeyAllowed	TRUE
IsEmptyPublishEncryptKeyAllowed	True
IsSecureLogging	false
IsSyncEmptyFolders	true
IsUpdateClientInfoAlways	true
KeyFile	C:\roy\workspace\RCOPublish\key.csv
LanClientStorageFolderPath	C:\Data
LeftDelimFolderId	(
LogFileSizeBytes	500000
MaxErrorDisplayLines	128
NewFolderName	2009
NewFolderParentFolderName	Payroll
PublishSyncFolderName	Publish
RecordSeriesCode	1000
RejectFilterFile	
RightDelimFolderId)
RmsClientStorageFolderPath	A1/Web Storage
RmsFuncGroupFolderPath	A1/Functional Groups
StaffUserGroupFolderPath	A1/A1 Staff
StartTime	10\50\36 AM PST
StorageRecordType	Storage
SyncDirectionMaster	LAN
SyncUserLogin	kim
SyncUserPw	kim
WindowDefaultHeightPixels	684
WindowDefaultWidthPixels	879

6.2 Key File

The file called keys.csv that has the following format. The RMS password is only for files contained in any subfolder under the RMS folder for a particular client. The purpose of the RMS folders is to provide a way for people in the field to see working files using the internet.

The encryption level has 3 values.

0 – no encryption is applied

1 – auto encryption/decryption where user id password is used for key with no prompting

2 – keyed encryption/decryption where system will prompt for a key when you decrypt

Note that the sync program sets the Encrypt column value in the Tree table when doing the file upload and encryption. The purpose of the encryption level 2 is that the key is never stored in the database and provides more security. The down side is that the user must supply a key every time they want to download or preview a file.

Ideally the system would logon to the system with the Client Number and Password to guarantee (assuming the directory security was correct) that objects go into areas where they were allowed.

The key file is a critical part of the sync program. The administrator will modify this file when adding or removing clients. The sync program will update certain fields in this file when creating new clients.

To quickly find and identify a directory node the name is coded.

Name (company number, record type id, record number)

All of these are also stored in the coding fields for the directory record. Note that you might have several companies that have the name field the same. The company number helps to uniquely identify the name. The record type id serves to identify what directory record type you are dealing with (alerted storage, department (sub org),

***To add/remove clients the administrator will modify the key file which has the following field formats.

#	Name	Description
1	Company Name	This has to be a unique string assigned by RCO
2	CompanyNumber	This is an auto-generated number
3	ClientName	This is the full name seen in the Web directory
4	ClientLastName	Client's last name
5	ClientFirstName	Client's first name
6	ClientCompany	Client's company name if applicable
7	Address1	Client's address 1 information (typically street address)
8	Address 2	Client address 2 information
9	City	Client City information

10	State	Client State information
11	Zip	Client's zip code information
12	Country	Client's country information
13	Telephone	Client's telephone number
14	Email	Client's email address
15	ClientId	This is a unique string (can be numbers and/or letters) to identify the client
16	Logon	This is the client's user logon information
17	LogonOld	If you want to change the logon you put the old logon into LogonOld.
18	LogonPW	Client's logon password
19	PublishKey	When you want to encrypt one or more client files that are located under the publish folder
20	Hidden Key	This is for the staff encryption of files not to be seen by the client located under the folder called Hidden. This is useful when you have staff in the field looking at client work files
21	PublishEncryptMode	0 – no compression 1 – auto encrypt using client logon password 2 – client supplied key required encryption 5 – Adobe encryption
22	LanFolderId	On your local directory you have Client Name (LanFolderId) where LanFolderId is unique for all clients and this will not be transmitted to the web server. LanFolderId can be made secure for logging. The LanFolderId can be anything that Windows or Unix will allow in a folder name. Examples: Jane Doe (2234520987) // might be Social Security # John Doe (18023.123A) // might be accounting file #
23	StaffId	This is from the Staff user coding field which is determined by a property field in the config.txt file called CodingFieldStaffId. This is system generated number. This is used to assign alerts to staff for one or more clients. When a file is uploaded to the web server this staff user will get an email.
24	StaffUserType	This is one of the following strings. User User Group Functional Group This determines who the alert gets sent to. This could be a single staff user or maybe you want to send to all the staff in a particular user group or functional group.
25	ForceSyncUpload	Ignore the date and time stamp on the clients files and upload everything when you run the sync program.
26	ClientInfoUpdateSelect	0 – ignores this client when updating client information 1 – use this client when updating client information
27	RmsClientStorageFolderPath	If you leave this cell blank then the system will use the config.txt key RmsClientStorageFolderPath=A1/Web Storage. This key comes in handy if you want to group your clients. For example you might have Foreign Storage for clients outside your country.
28	ClientUserGroupFolderPath	If you leave this cell blank then the system will use the config.txt file ClientUserGroupFolderPath=A1/A1 Clients setting. This is useful if you want to create users that are not clients. For example you want to enter vendor names.

6.3 Filter File

The filter contains zero or more dos wildcard filters (one per line) that will be blocked from uploading. When you run the sync program you will need to supply a filter file location. Normally you will have the filter file and the key file in the same folder but they can be different. You can have a filter file that has zero length. In other word you do not have any filters and want all files to be uploaded from the local server to the web server.

As an example suppose you wanted to block all excel files and all word files from being uploaded then your filter.txt file would have the following 2 lines.

```
*.xls  
*.doc
```

The following paragraph is from Wikipedia and defines the wildcard format.

In [computer \(software\)](#) technology, a **wildcard character** can be used to substitute for any other character or characters in a string. The [asterisk](#) (*) usually substitutes as a wildcard character for any zero or more characters, and the [question mark](#) (?) usually substitutes as a wildcard character for any one character, as in the [command line interpreters](#) of [CP/M](#), [DOS](#), [Microsoft Windows](#) and [Unix-like operating systems](#). This is referred to as [glob](#) expansion. In [SQL](#), wildcard characters can be used in "LIKE" expressions; the [percent](#) sign (%) matches zero or more characters, and [underscore](#) (_) a single character. In [Microsoft Access](#), wildcard characters can be used in "LIKE" expressions; the [asterisk](#) sign (*) matches zero or more characters, and [question mark](#) (?) a single character. In many [regular expression](#) implementations, the [period](#) (.) is the wildcard character for a single character.

6.4 Sync Log File

The log file is called synclog.txt and is located in the program start directory. As the program works or encounters an error, then information will be written to this file.

6.5 Configuration File

The configuration file currently contains a string which specifies the location the web server. This file is called config.txt. This file is located in the RCOPublish directory.

6.6 Upload Log File

The upload log file keeps track of all files uploaded on a given day. The system will create a new log file in the /logs directory with the upload[date]log.csv. Each line in the

file will have the format <year, month, day, hour, minute, path, filename> as shown in the following example.

```
“2009”, “2”, “15”, “6”, “35”, “c:\Client Data\A\Adams, Amy  
(2345653)\Tax\2009”, “organizer.pdf”
```

6.7 Download Log File

The download log file keeps track of all files downloaded on a given day. The system will create a new log file in the /logs directory with the download[date]log.csv. Each line in the file will have the format <year, month, day, hour, minute, path, filename> as shown in the following example.

```
“2009”, “2”, “15”, “6”, “35”, “c:\Client Data\A\Adams, Amy  
(2345653)\Tax\2009”, “organizer.pdf”
```

6.8 Publish Folder Files

Under each client folder you should have a Publish folder. Any folder or files contained under this folder will be uploaded to the web server.

6.9 Hidden Folder Files

The Hidden folder is to be used by company staff as work folders and files for that client. Under each client folder you should have a Hidden folder. Any folder or files contained under this folder will be uploaded to the web server.

6.10 File Attributes

When a file is copied to the publish or work area the rms will get the modified date time file attribute from the user’s computer file attribute and copy this information to the RMS server file attributes.

The RMS will also keep 2 coding fields

RMS Last Modified Date

RMS Last Modified Time

RMS Last Modified TimeStamp (number field – milliseconds since 1/1/1970 GMT)

7 Sync Rules

The primary thing to remember about the sync program are the two main drivers which are the key.csv file and the LAN directory structure (Sync Source = LAN). The Sync Source = LAN is in the configuration file on the local administrator computer or possibly on a network drive. To create new users the local administrator must update the key.csv file. The local administrator can then add folders and files to the LAN directory structure for synchronization.

Note that if the local administrator has to do major changes or even renaming folders they should first run the manual sync, turn off all logons, make the LAN changes and then run the manual sync again.

The sync program traverses down from the LAN start folder it will create new storage folders on the web server if they do not exist. The program uses the key.csv file extensively during the sync process. In some cases the program will update the

The following rules apply when publishing.

If a new client folder name exists the system will create a new client

If the file's modified date is newer than the rms creation date the file is overwritten.

If the file's modified date is equals the rms creation date no action is taken.

If the file does not exist on the rms the file is encrypted and copied to the rms folder

7.1 New

The following sections describe what the program does when new local or web objects are encountered during the synchronization.

7.1.1 New LAN User

When a new user folder is created on the LAN starting folder (LastName, First Name (ID)) the system will create a new user and web storage folder and inherit parent coding fields. When the program finds a new user folder with the (ID) the program looks at the key file and checks whether the ID exists. If there is no match then the program will created the user on the Web.

7.1.2 New LAN Folder

The program will add to the web any new LAN folders and all sub children of the folder. The program knows the current ID and can look up the Client Tree ID from the key file.

7.1.3 New LAN File

If a new file is added to a folder the program will create this file on the LAN with the same date and time added to the web file's coding fields. Note the program uses the current ID to first find the Client Tree Id and then the program also get the Encryption mode from the key file and this information is used to write the file and set web database values.

7.1.4 New Web Folder

If a new web folder is created under my stuff or hidden this folder will be created on the LAN with the same date and time. This can only happen when the local administrator is using the admin to add folders for the client.

7.1.5 New Web File

If a new web file is added then this file will also be added to the lan with the same date and time.

7.2 Delete

The following sections describe what the program does when deleting local or web objects. There is a very critical configuration key value call Full Sync override that the program must check. If the value is true then the program can do hard destruction delete irrespective of the record series code.

7.2.1 Delete LAN User

If a user is deleted on the LAN the system will delete the web user if the configuration file keyword – Full Sync Override = true. Otherwise the system will not make changes on the web.

7.2.2 Delete LAN Folder

If a LAN Folder is deleted on the LAN the system will delete the web folder if the configuration file keyword – Full Sync Override = true. Otherwise the system will not make changes on the web.

7.2.3 Delete LAN File

If a LAN File is deleted on the LAN the system will delete the objects if the configuration file keyword – Full Sync Override = true. Otherwise the system will not make changes on the web.

7.2.4 Delete Web Folder

If a Web Folder is deleted on the Web and Sync Source = LAN the system will the copy the LAN folder and all children to the Web.

7.2.5 Delete Web File

If a Web File deleted on the web the system will copy the LAN file to the web if the configuration file keyword – Full Sync Override = true. Otherwise the system will not make changes on the web.

7.3 Update

The following sections describe what the program does when updating local or web objects. As in the delete operations the configuration file keyword Full Sync Override = true allows the program to do hard deletes irrespective of the record series code.

7.3.1 Update LAN User

If the LAN user name is modified then the program will change the Web user name and any coding fields. When you created the user you stored the user tree id in the key.csv file. The local administrator must first update the key file and then the LAN client folder.

7.3.2 Update LAN File

If the LAN File is updated or the name changed the program will update the web and any coding fields. The program will overwrite the Web file if the LAN file has a newer date and time stamp.

7.3.3 Update Web File

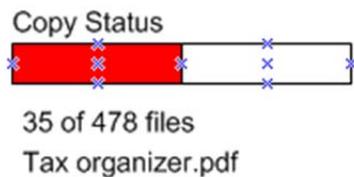
If a Web File is updated or the name changed the program will update the LAN and the time and date stamps.

8 Messages

The program generates both status that indicate how the copy operation is progressing and error messages when the system encounters an abnormal condition/

8.1 Status

In the program window on the right hand sides you will see a copy status section which includes several items that assist you in monitoring the copy progress.



The gas gauge gives you a quick way to see how much of the copy operation is completed. The file copy status line shows you the number of the current file being copied and the total number of files to copy. The last line shows the name of the file being copied.

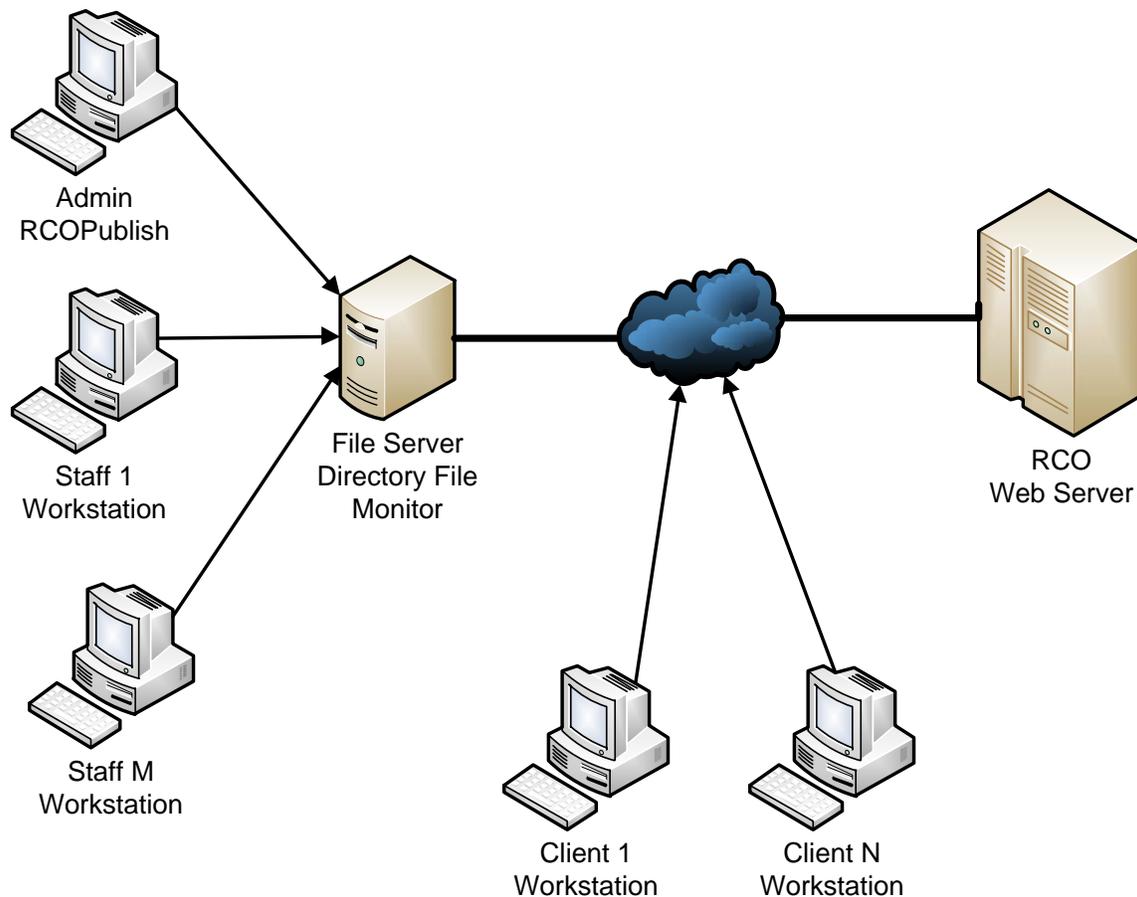
8.2 Error Message

The following table shows the errors contained in the program. In some cases the program may not handle an error and you may get an internal java or operating system error.

#	Type	Description
1000	Disk Full	The target disk is full. Please get a bigger disk or delete files.
2000	No connection	The program can't make a connection with the server.
3000	File Locked	There are locked files and the program can't start until all files are unlocked.
3001	Key File Bad	The key file is corrupt. Please check
3002	No root	You can't choose the root drive and must specify a subdirectory. Example c:\clients

9 Directory File Monitor Service

The Directory File Monitor runs as a service typically on the server machine and keeps a list of the files (a file can also be a folder) that have been added, renamed or deleted. The file that contains this information is called snap.csv. The publish program communicates with the directory file monitor and only updates files that have changed.



In the previous figure you see a typical configuration where you want to publish data for your clients. The administrator creates the directory structure on the file server using the RCOPublish program. The staff then copies information to the File server for the clients they are working on. The administrator on a regular basis runs the RCOPublish program to make the files available to clients. Clients can copy files from the web server to their local machines and they can copy files from their local machines to the web server.

All client data is located on a file server under a specific folder. Each client has a Publish and or a Hidden Folder. As staff adds files to either of these folders the directory file monitor keeps notes of all the file operations in the snap.csv file. The purpose of the directory file monitor is to try and optimize the time it takes to publish files to the web server. You want to only publish newly changed files.

9.1 Files

There are several files used by the Monitor service. The monitor will store data files in the path [\\ComputerName\DirFileMonitorData](#) (this is a shared folder name).

1. Config.txt
2. ExcludeFiles.txt
3. errorLog.csv
4. eventFiles.csv
5. snap.csv

1. Config.txt

The config.txt file is used to read startup options.

Root Path=d:\Client Data
includeFolders=Publish, Hidden

Port=8223
millisecondsIntervalForResultComparison=10

Note that the RootPath key specifies a parent folder and the service will recurse starting from the path down. The includeFilter indicates files/folders that must match the filter.

2. eventFiles.csv

The DirFileMonitor's primary job is to monitor changes to certain files and folders, and these "change events" to the eventFiles.csv file. The eventFiles.csv file format is a standard "CSV" file (comma-delimited). Note the csv encloses every value with quotes, separated by commas, with no spaces outside the quoted values. The columns in the eventFiles.csv file are as follows:

Col	Value	Description
1	Date	YYYYMMDD This is from the date modified attribute*
2	Time	HHMMSS This is from the date modified attribute*
3	LastModified	This is the time (long integer) in milliseconds
4	Path	This is the full NTFS directory path including drive letter of the folder or file the event applies to.
5	Type	"Folder" or "File"
6	Operation	"Add" or "Remove" or "Rename" or "Modify"
7	NewName	User for Rename Operation. This is the full NTFS directory path including drive letter of the new name. The old name is given by the Path column.

*Date and Time use left zero padding (e.g. 08). Time is 24 hour time.

Example eventFiles.csv

```
“20091220”,“083026”,“c:\Doe Jane\Publish\Tax\2010”,“Folder”,“Add”,””  
“20091220”,“083145”,“c:\Doe Jane\Publish\Tax\ Tax Worksheet.xls”,“File”,“Add”,””  
“20091220”,“083201”,“c:\Doe Jane\Publish\Tax\Tax Worksheet.xls”,“File”,“Rename”,”  
c:\Doe Jane\Publish\Tax\Tax Worksheet-old.xls”
```

The DirFileMonitor will write a “file/folder change” event to the eventFile.csv file whenever it detects that a file or folder in its “monitoring scope” has been added, deleted, renamed, or modified.

The “monitoring scope” means all the files and under a designated “root path” where the files meet some additional filtering criteria. The rules are as follows:

- The file or folder path begins with the “root path” (i.e. under the root path).
- The file or folder path has a folder named “Publish” or “Hidden” as part of the path.
- The file or folder path does not match any pattern in the excludeFiles.txt file.

Example:

E:\Client Data\A\Apple Pan (100345)\Publish\Tax\2010\hotBooks.xls

When the DirFileMonitor service is started, it will open the eventFiles.csv file, creating a new one if one does not already exist.

3. errorLog.csv

The error log keeps track of errors / exceptions that occur during the service execution. The format is is a standard CSV file with columns as follows:

Col	Value	Description
1	Date	YYYYMMDD This is from the date modified attribute*
2	Time	HHMMSS This is from the date modified attribute*
3	Number	This error number is a programmer indexed list (e.g. 1-internal error)
4	Type	This specifies the category for the error (e.g. File I/O)
5	Description	Specifies detailed error message (e.g. “c:\Doe.....\”Tax Worksheet” file locked

ExcludedFiles.txt

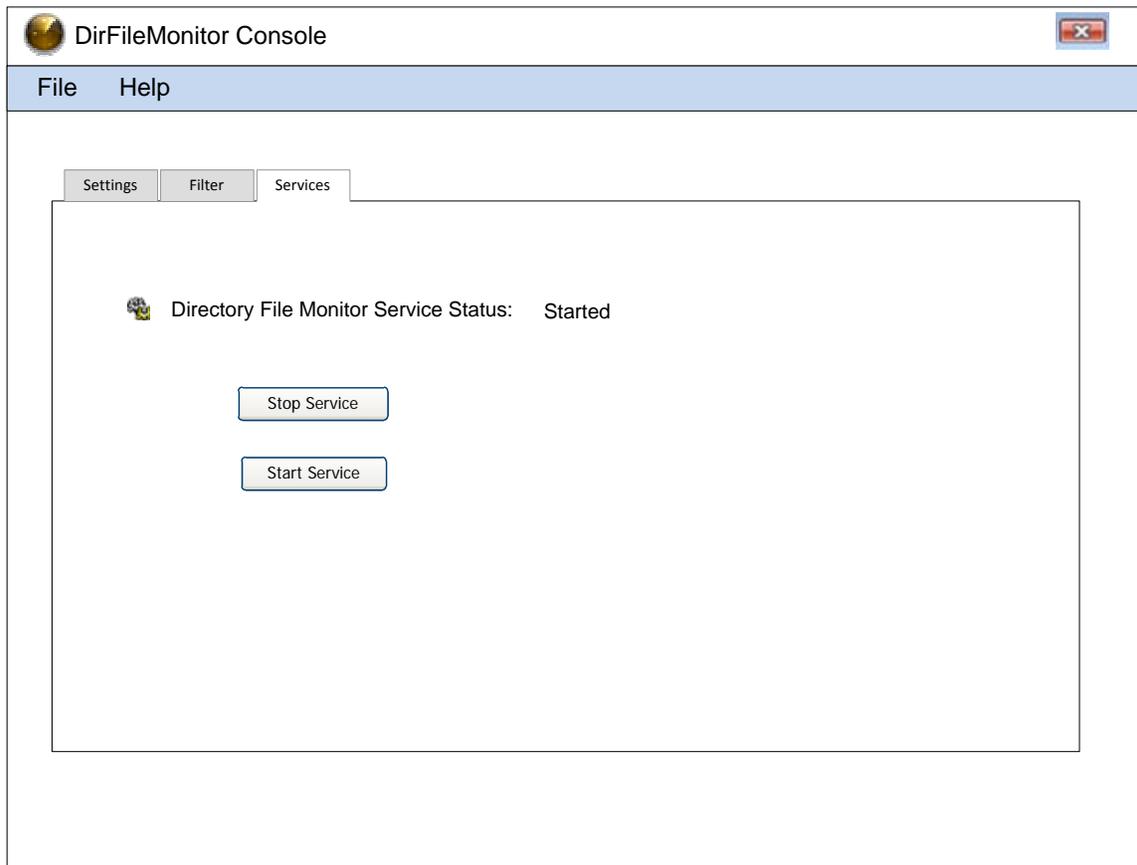
The excludeFiles.txt file contains a list patterns for files to be excluded from the monitoring scope. There is one line per pattern using the standard dos wildcard format.

*.dat
*.exe

*.tmp
~

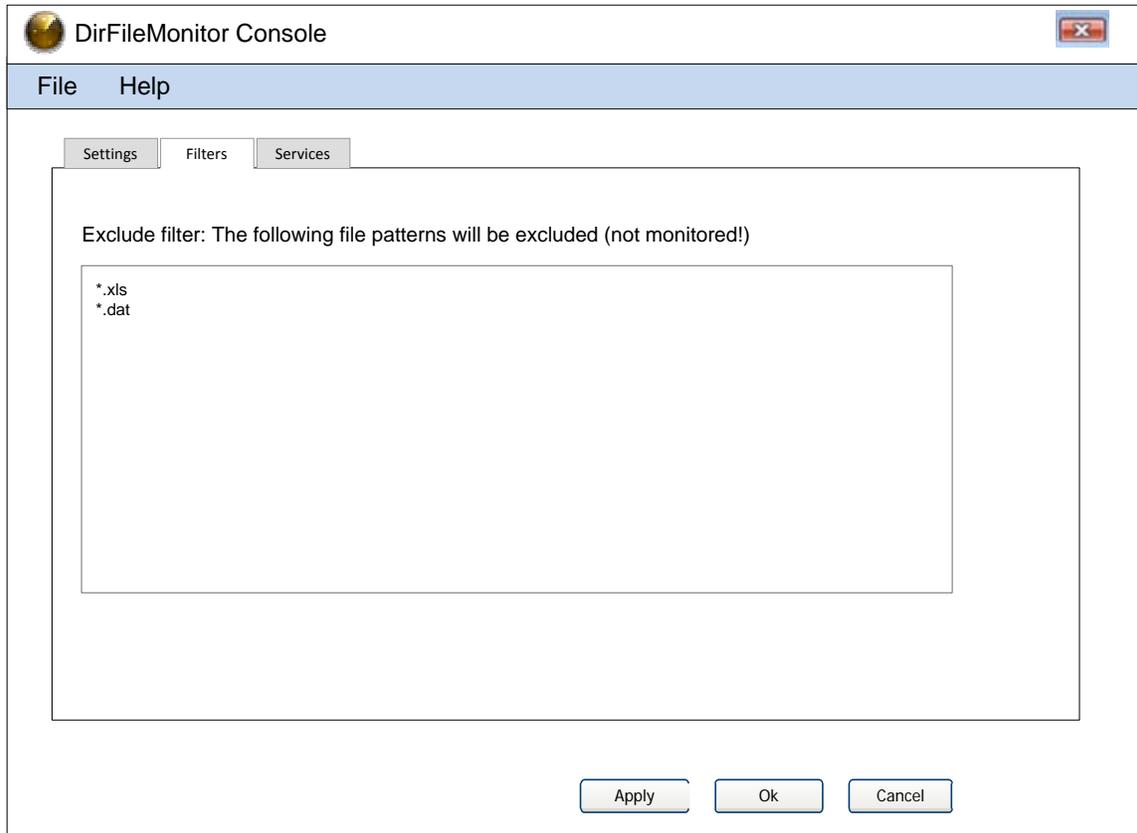
9.2 Services

The third tab called services show the current status of the directory file monitor service. The operator can stop or restart the service.



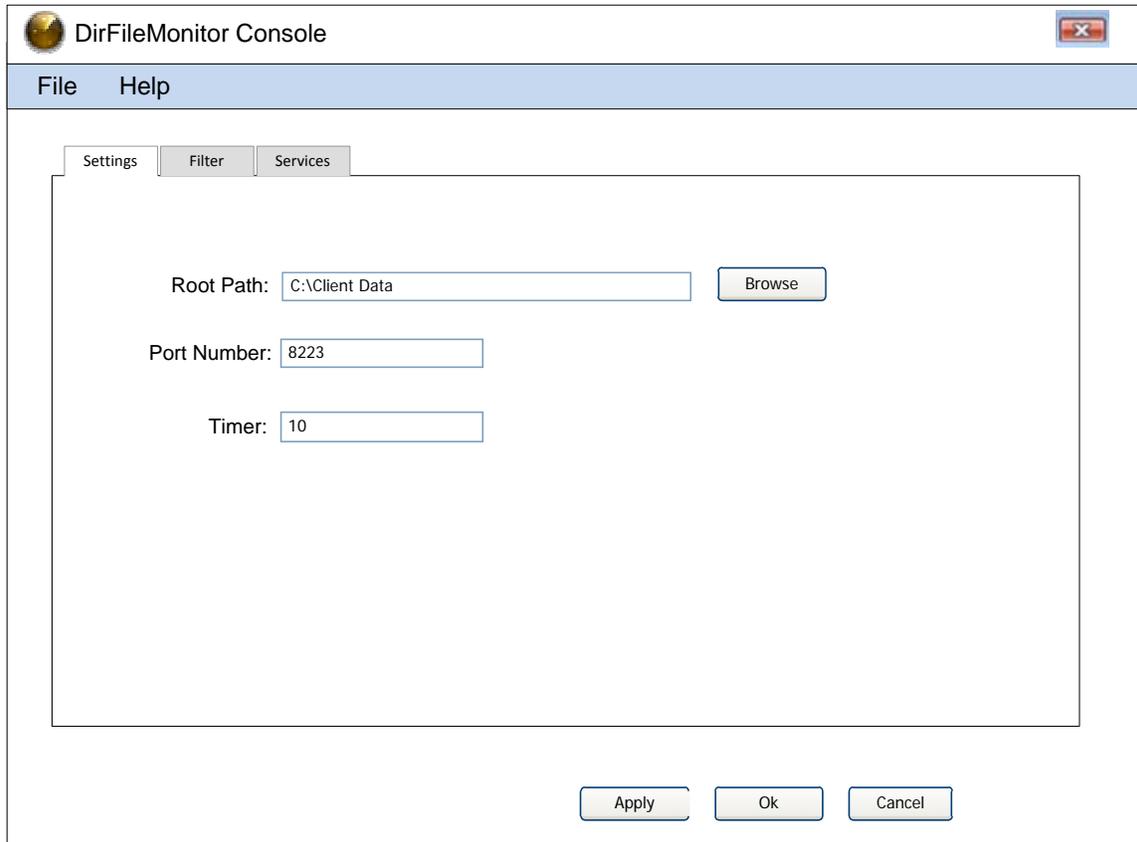
9.3 Filter

The filter tab allows the operator to edit the exclude filter file. This file controls which files are not included in the directory file monitor watch list.



9.4 Settings

The settings tab allows the operator to make changes that are saved to the configuration file config.txt.



10 Summary

While some of the publishing concepts take some time to understand the advantage is that you have faster client communication. With the maintenance tools you can create new folders for all your clients with one click instead of having to use the file explorer to create folders manually one at a time which is tedious, time consuming and error prone. We hope the program provides value to you and please send us suggestions and comments that you feel would improve the program. We thank you for your business and strive to provide you with the best possible service and support.