
Reference

SyncData-DBF



By: Synergy Solutions, LLC.

This manual was produced by Synergy Solutions, LLC.

Synergy Solutions, LLC
276 Newtown Turnpike
Wilton, CT 06897
203-762-1153
www.syncdata.net
info@syncdata.net

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rev. 9/28/02

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Introduction

SyncData-DBF Overview

What is SyncData-DBF ?

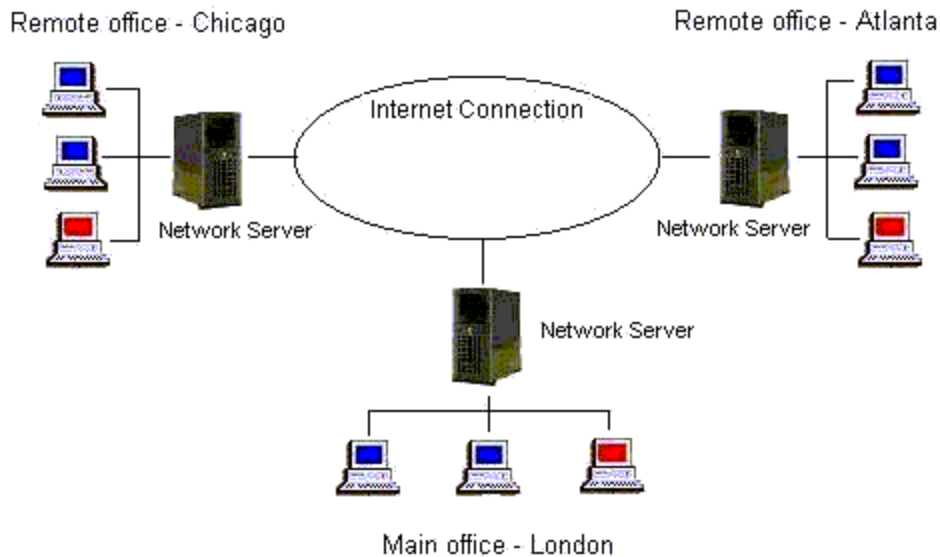
SyncData-DBF is a software program that runs on a single PC at each office location. The program continuously monitors a set of DBF files on the local LAN server and replicates any data changes to servers at remote office locations in real time. A user of a contact manager application at the Atlanta office adds a new contact and within 5 minutes that new contact is replicated to the LAN servers in the London and Chicago offices. All offices now share access to the same set of data. The replication goes two ways so similar changes made to data at any office is replicated to all other offices. All data transmissions are compressed and encrypted to ensure data security.

Who can use SyncData-DBF ?

Any company that needs to share data stored in DBF files with users at remote office can benefit from using SyncData-DBF. DBF files are used by several popular accounting programs including Accpac Pro, Accpac VisionPoint, Accountmate and TIW. DBF files are also used by contact manager software including ACT! and GoldMine. Many companies have custom applications used for mailing list management, lead tracking, quote generation and management reporting that store data in DBF files. SyncData-DBF gives each office their own local copy of the DBF files to view and update. As changes are made to the data they are replicated to the data sets at other office locations in real time. This replication process happens continuously, while the DBF files are open and in use at each location

Example1:

In the diagram below the, SyncData-DBF software is installed on a single PC at the companies three offices. They have a main office in London and have opened up 2 new offices in Chicago and Atlanta. They have a custom contact & quotation system that stores data in DBF files. They want to have all users at each office share access to the same contact and quotation information on a real-time basis so that any changes made to data in London is seen by users in Atlanta and Chicago within 5 minutes. The directory on the London network server that contains the custom contact & quotation software and DBF files is copied to a directory on the network server at the Chicago and Atlanta offices. That's it! No changes to the existing software are required. With SyncData-DBF running on a single PC at each location, all users at all workstations at all offices are sharing access to the same data.



Example 2

A company is running ACCPAC Pro series software at their operations office in Stamford, CT. Their corporate office in New York wants to be able to print reports and view their accounting system data whenever needed. The company president is also nervous about having all that critical data in one place and wants a second copy of the data on the server at the corporate office "just in case". Using SyncData-DBF on a single PC at the operations office and a single PC in the New York office gives all users on the New York network access to the ACCPAC Pro series data. The SyncData-DBF can be configured for only one way communication if needed so any changes to the data made accidentally to the data at the New York offices is not replicated back to the operations office.

What are the benefits of using SyncData-DBF ?

- **Share data access at multiple office locations.**
 After installing the software and selecting the .DBF files to be shared with selected locations you are ready to go. Changes made to selected files at one office location are quickly encrypted and replicated to other offices. Data replication is two ways, so users at all offices can share the same information. SyncData-DBF may be used with your existing **applications without any changes to your program!** Application response time is fast as each office works from a replicated copy of data on their local network server. With asynchronous data replication, if your Internet connection fails your users stay online because they are working from their own replicated copy of the data. When the connection comes back up the system sends out and receives in any changes to the data since the last sync. The users won't even know that the system was ever down. Remote offices using Citrix or a VPN connection are at the mercy of their Internet connection. If the connection is down or running slowly the remote users simply cannot use the system.
- **Built for Security - All data transmissions are encrypted.**
 All data transmitted between sites is encrypted and can only be unscrambled by the SyncData-DBF software at the target location. Each SyncData-DBF installation is assigned a unique installation key. This key is combined with a unique file key created with each transmitted file. Both these keys are required to unlock the transmitted file.
- **Remote Backup. Each office provides a real time remote backup of your data.**
 Many offices have a nightly tape backup as their only means of data protection. What happens if a user is working late, using a database application and the tape backup tries to backup the file? Most backup programs simply skip the file. When was the last time you tested your tape backup by trying to restore a file? If you are not doing this each month you should! What about site security? It's fine to have a tape backup each night but what happens if there is an office fire and your tape and network servers is lost? SyncData-DBF

provides an extra layer of data protection for your mission critical data. Within minutes of updating a field of a database at one location, that change is replicated to all other office locations. This gives you multiple off-site copies of your application data.

- **Saves money ! Costs less than other alternative technology.**

Dedicated data lines (frame relay and VPN connections) can be very expensive, costing hundreds of dollars EACH MONTH ! With SyncData-DBF software, any Internet connection and access to your web sites FTP file server or an email account you can securely share your data with your other offices. The cost for an Internet connection and email starts at \$12 per month.

Is It Difficult to Install & Configure ?

Typical installation takes only 10 minutes to install & configure. No special servers or hardware required. All you need to begin sharing your files is a single PC workstation at each office location. That workstation should have access to the Internet or email access. You need no special dedicated servers, no Citrix servers, no special VPN routers. Simply click on the setup.exe program and the software installs. Run ezsetup.exe and you will be walked through the screens needed to configure your software. You'll be up and running in ten minutes!

To obtain a free trial version of the software web site www.syncdata.net or call Synergy Solutions, LLC at 203-762-1153.

System Requirements

Processor & Operating System

The Sync software is loaded on one PC Workstation at the host location LAN and on a single PC at each remote office location LAN. The workstations must be running Windows 98/NT/2000 or XP with minimum of 64 Megs of memory.

Disk Space

Hard disk space on the local PC workstation (usually the C drive) of 15 Megs plus additional space equal to the space required for the ".DBF,.CDX,.FPT,.DBC" files you select to share with other locations. While the files you select to share may reside on a network drive the extra space is needed on the local drive of the PC workstation to hold copies of working files used for the synchronization process.

Internet Connection

If all of the Sync PC workstations at each location share access to a common network directory through a VPN (virtual private network), then the workstations do not require an Internet connection. If the locations are not connected through a VPN then the Sync PC workstation at each location will require an Internet connection (either dial-up, or permanent Cable/DLS/Proxy).

Communication Method

Select one of the following four methods to communicate between your office locations. The same method must be selected for each location. The Sync PC workstation at each location will communicate using this method. You may change methods later if needed. All locations must select a similar communication method (Email, FTP or VPN). Office locations may have different email methods (some may choose POP-Email while others select OUTLOOK-Email).

Select one of the following communication methods:

POP-Email/OUTLOOK-Email - A separate email account and email address must be setup for each office location. If POP-EMAIL is selected then the mail server must use POP3 and the Sync PC workstation must have an Internet connection. If OUTLOOK-Email is selected then only an email address is required. The Outlook® program will handle the sending and receiving of email messages. The Mail server may be Exchange, POP or whatever email system you have configured Outlook® to use. Offices that are using Exchange Server for the company email processing and use Outlook® mail clients should typically choose this as an email option.

FTP Directory - Requires access to a web server directory. If you have a web site then you can use your web directory and transmit the files using FTP. Your Internet service provider can give you the

required password and user id to access these services. The Sync PC workstation at each location must have an Internet connection.

Virtual Private Network (VPN) - The Sync PC workstation at each office location must have access to the same directory. Must have read/write access and ability to create sub-directories.

File Types

SyncData-DBF works with DBF files. (Visual Foxpro®, Foxpro for Window or Foxpro for DOS) The program will not work with Dbase4 files. If you are not sure if your DBF files are compatible, make a copy of your DBF files and test this product on copy of the DBF files. After selecting these files be sure to open them or use them in the original application to be sure that they still work with our legacy application.

Unique Key Field

Each table (.DBF file) must have a field or fields identified as a unique key. The Sync process uses this to uniquely identify records. The key must evaluate to a character value and must uniquely identify each record in the table (.DBF). If you are not sure if a field is unique its best to have SyncData-DBF add a field to the table automatically. The Sync system will do this for you but be sure that your legacy application supports Visual Foxpro®, Foxpro for Windows for Foxpro for DOS ".DBF" file types. Some older applications (more than 10 years old) like Foxplus and Clipper may not support the related .CDX files so when you add a new field using SyncData-DBF, the legacy application may be unable to open the file. It is best to copy your legacy files to a test directory and select these tables using SyncData-DBF. When the files are selected the SyncData-DBF system will automatically add a new field to the table to store a unique record ID. Try opening these files from the legacy application to be sure the application still works. If you are unable to open the tables then you will not be able to use the application on these tables.

Requires that a tag be created for the unique key fields identified above. The tag is saved in the structural (.cdx) file.

SyncData-DBF comes with a data dictionary and index dictionary to facilitate maintaining your file structures. If you add fields or indexes to the tables be sure to check your legacy application to make similar changes to that dictionary (if one exists), otherwise when you do a rebuild from within the legacy application the new fields and indexes you added using the SyncData-DBF dictionary may be lost.

Note for Developers:

SyncData-DBF may be installed for any offices running a DBF based accounting package. This will allow users at remote offices to view data and generate reports. This requires no changes to your accounting software to do this. If you want to change the data at the remote offices please keep the following programming ideas in mind.

Offering a screen to a remote user that allows the data in the existing record to be changed, or the record marked for deletion is fine as long as the unique key field is not changed.

Only field changes are replicated to other locations. Here is an example to illustrate. You call up a customer record and update the Phone field to be their new phone number and at the same time that same customer record is opened by a user at another location and changes the street address. You both save your changes. Within 5 minutes (or what ever your synchronization cycle time is) you look

at that customer screen you will see both the new phone number and the new street address. This works because only the fields that have been changed are replicated to the remote sites.

When adding a new record to a master file (say a customer master file) at a remote location be sure that the customer number assigned to the record is not being used by another customer record recently added by a user at another location (within the last 5 minutes). This can be avoided by making a program change that always adds the location id as the last character in the customer number field. For example, a user at the main office in Connecticut (location 1) adds a new customer record for Acme Nail Company the customer number assigned is "ACM651". Within the next 5 minutes another user at the New Jersey office (location 2) adds a customer record for Acme Widget Company the customer number assigned is "ACM652". The user gets to pick the first 5 digits of the customer number but the system forces the last digit to be the same as the office location. Set an environment variable on each machine at the location with the location ID for that office. Then use the `Getenv("loc")` function to retrieve this from within the application.

When a new invoice is generated the system gets the next available invoice number from a counter field of a setup DBF file. To be sure that no 2 locations ever assign the same invoice number, set the starting number for counter field in the setup DBF file as follows:
For location 1, set the counter to '1000000001', for location 2 set to '2000000001', for location 3 is set to '3000000001' and so forth for each office location. As the invoices are booked at each site the number is incremented by 1. This avoids any duplicate invoice number problem until 999999999 invoices have been booked at a single location. (not likely in our lifetime). The setup DBF file containing the counter field should NOT be selected as a file to be synchronized between offices. That way the seed invoice number will stay separate for each location.

The same technique may be used for other postings that use transaction id numbers. Just give each location a separate starting number and you should be fine.

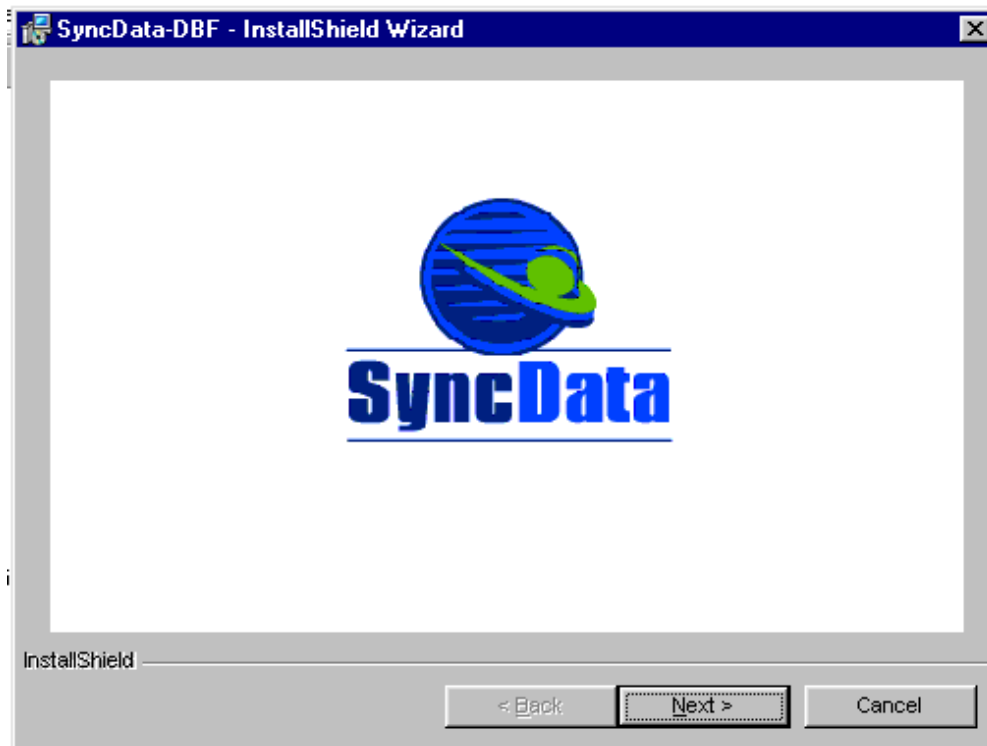
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Installation & Configuration

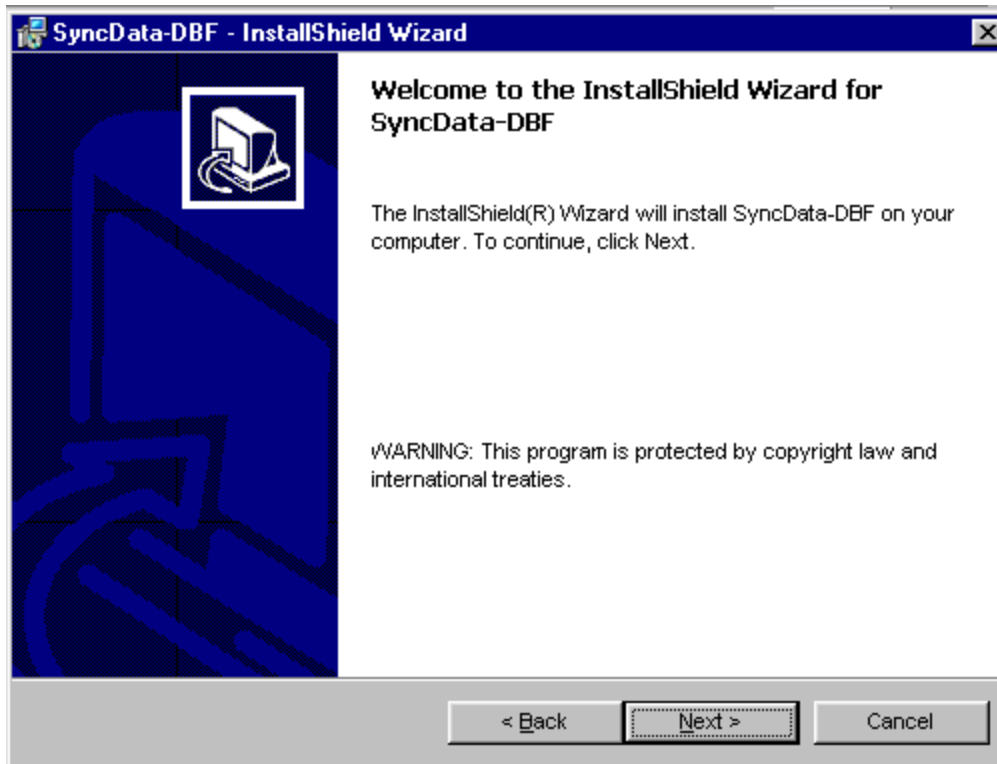
Installation

1. Download the latest program from our web site www.syncdata.net/download.htm Complete the form with your name, company name and email address and click "Continue Download". Save the file SyncDataSetup.exe to a temporary folder on your computer. (like c:\download or something like that)

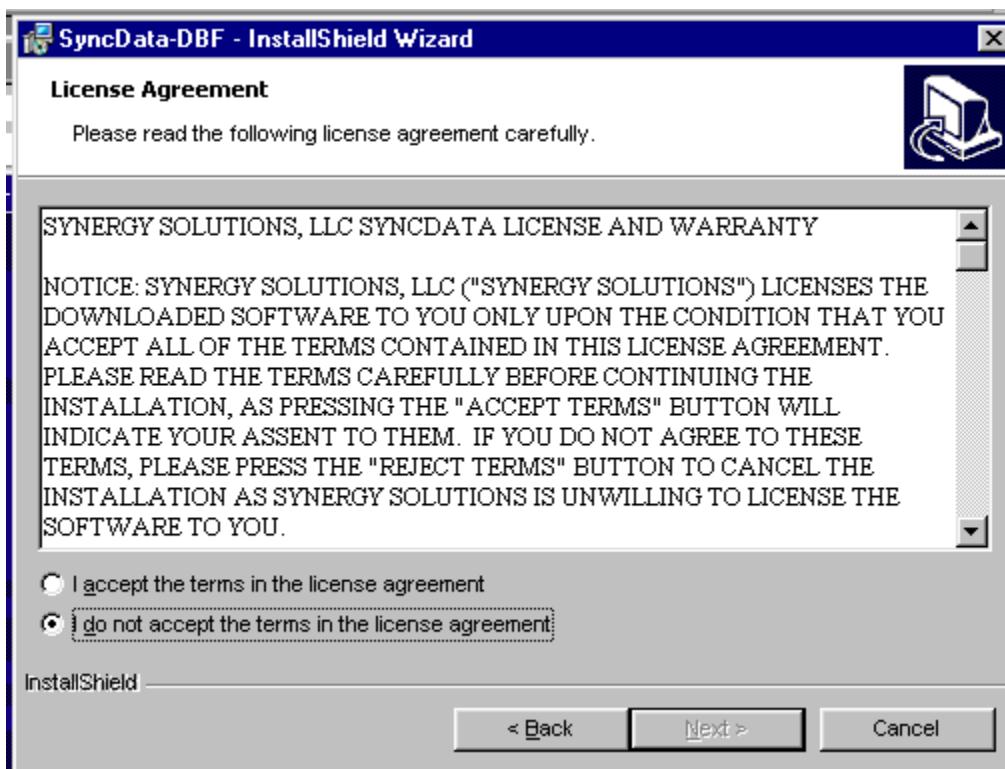
Double click on the file SyncDataSetup.exe to launch the installation process. You will see the screen below.



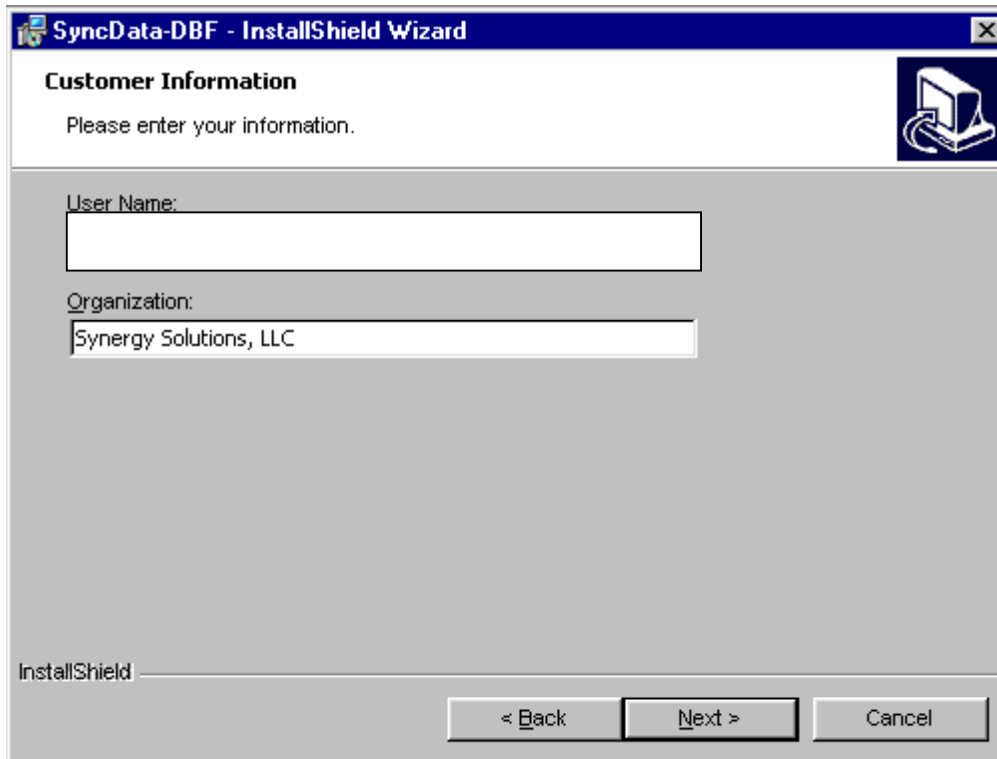
2. Click "Next" to continue to the next screen. (below)



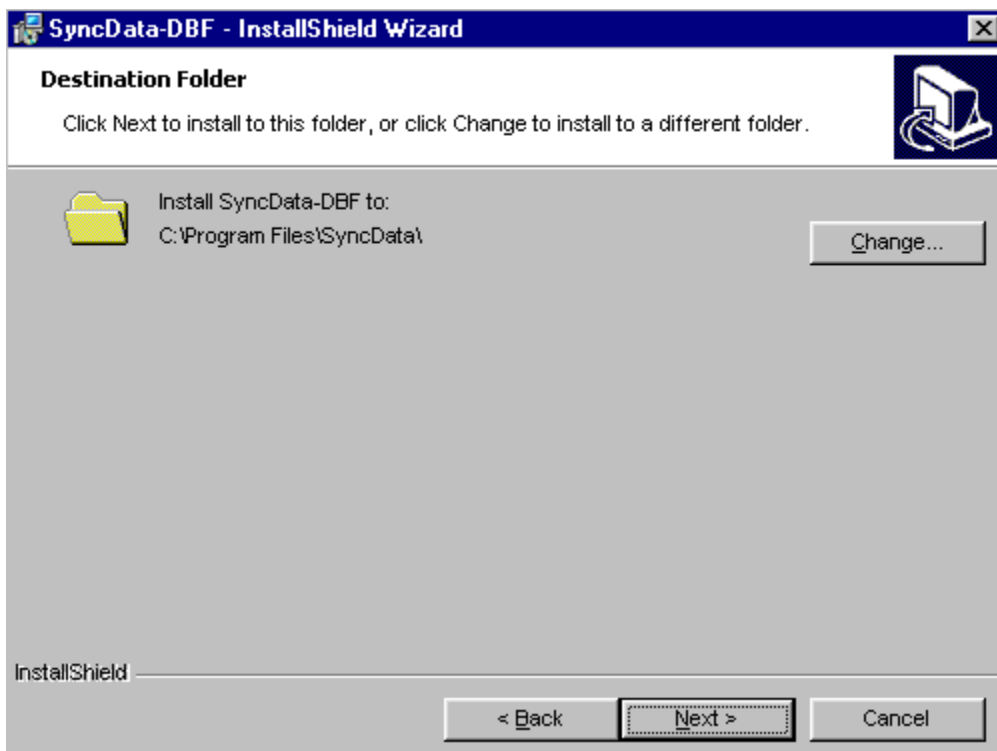
3. Click "Next" to continue to the next screen. (below)



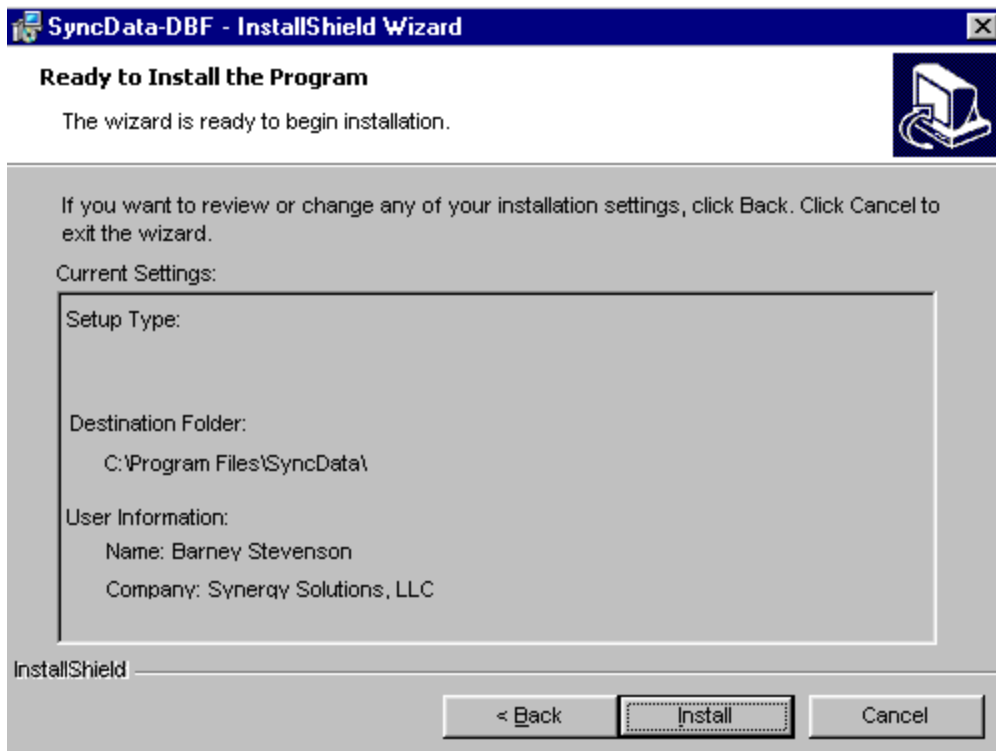
4. Read the license agreement. If you accept, click the "I accept" button and click "Next".



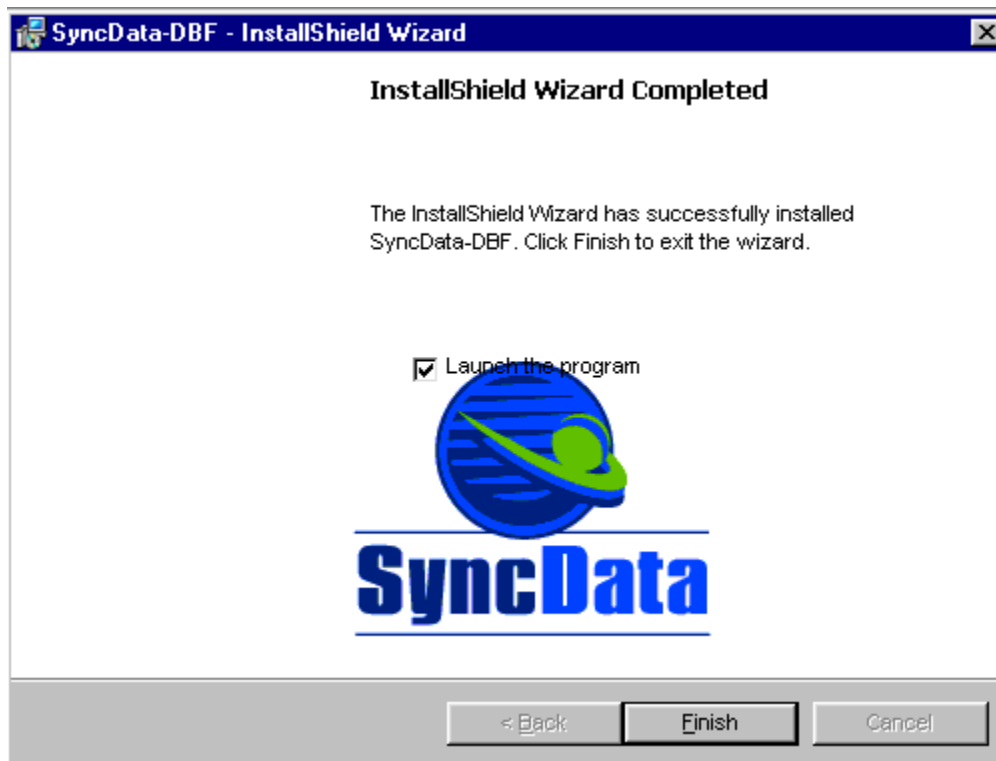
5. Fill in your name and company name and click "Next".



6. You may accept the default location or click Change to specify another location. The SyncData-DBF software will be installed on the directory you select. The system will make additional directories under the selected directory to hold additional files required by the SyncData-DBF system. Click "Next" to continue to the next screen. (below)



7. Click "Install" to continue with the installation.



8. The software has now been installed successfully. Leave the check next to "Launch the program" and click "Finish". This will launch the EZsetup program to configure the SyncData-DBF software on this computer. If you do not check "Launch the program" you will be returned to your desktop. The Software is installed and may be configured later by clicking on the EZsetup icon on your desktop. Three icons have been added to your desktop to launch the SyncData-DBF program.

Configuration

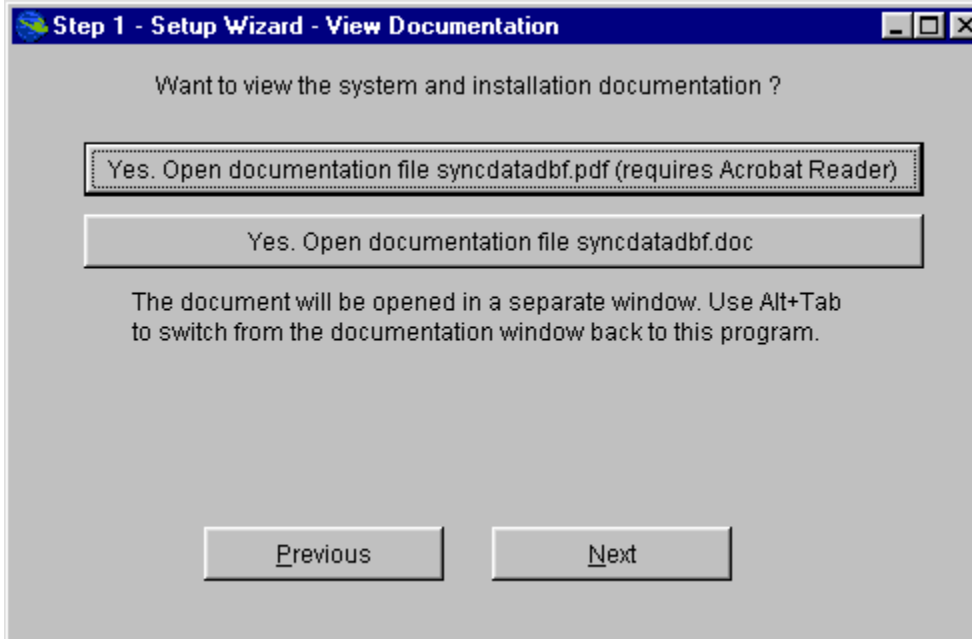
EZsetup -This will launch the SyncData-DBF configuration wizard.

Maintenance-This will launch the SyncData-DBF administration program.

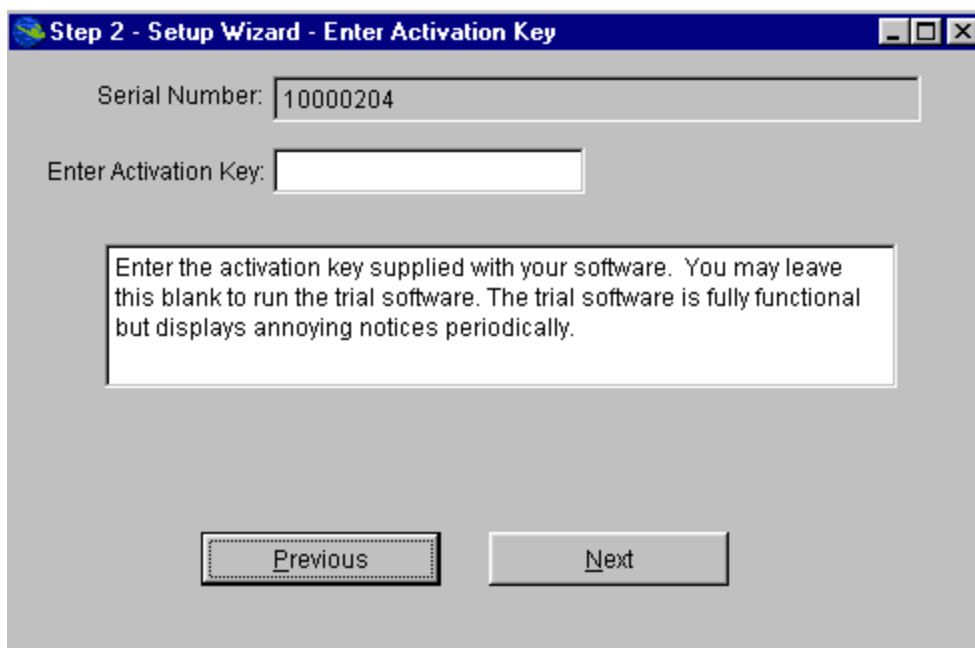
Polling-This will launch the SyncData-DBF polling program.

See operations documentation for more information about the function of each program.

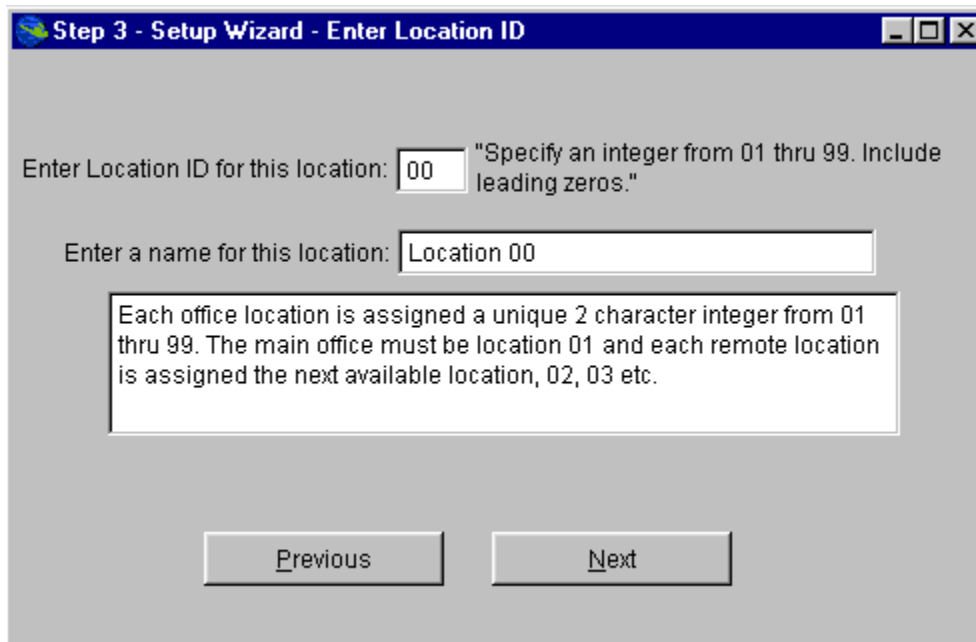
9.If you selected to Launch the program above you will see the first screen of the EZsetup wizard. (below)



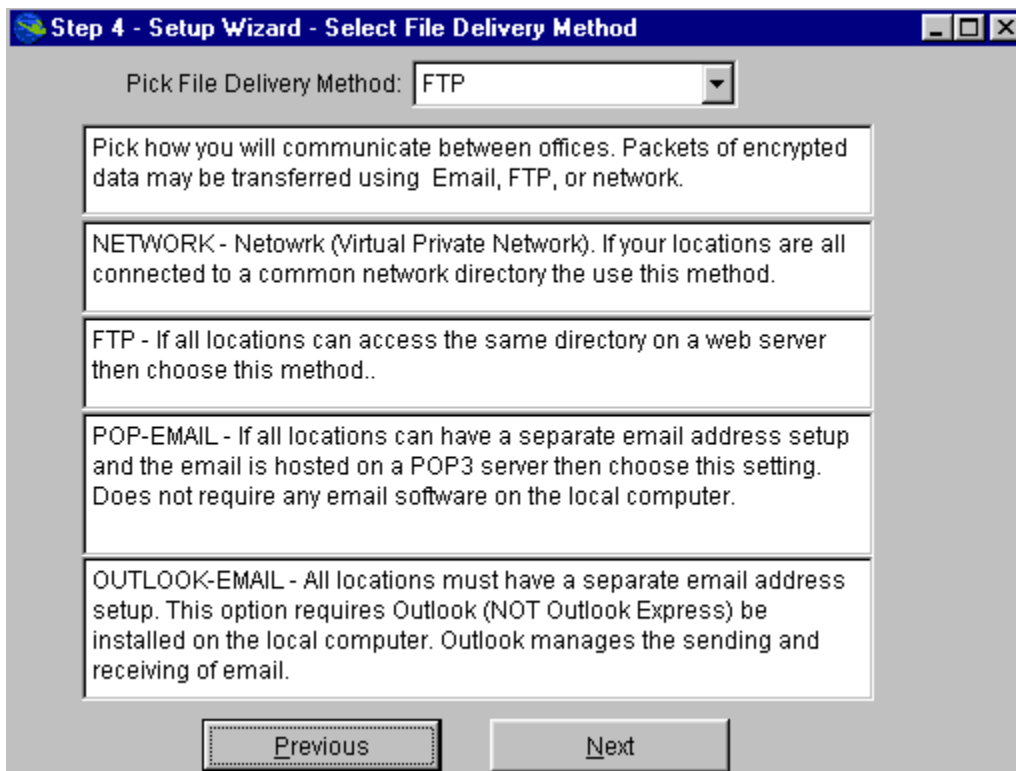
10. Click on the button corresponding to the documentation you wish to read. Click "Next" to continue to the next screen. (below)



11. Enter the activation key supplied with your software. Click "Next" to continue to the next screen. (below)



12. Enter the location ID of this office. Change the location name as needed. Click "Next" to continue to the next screen. (below)



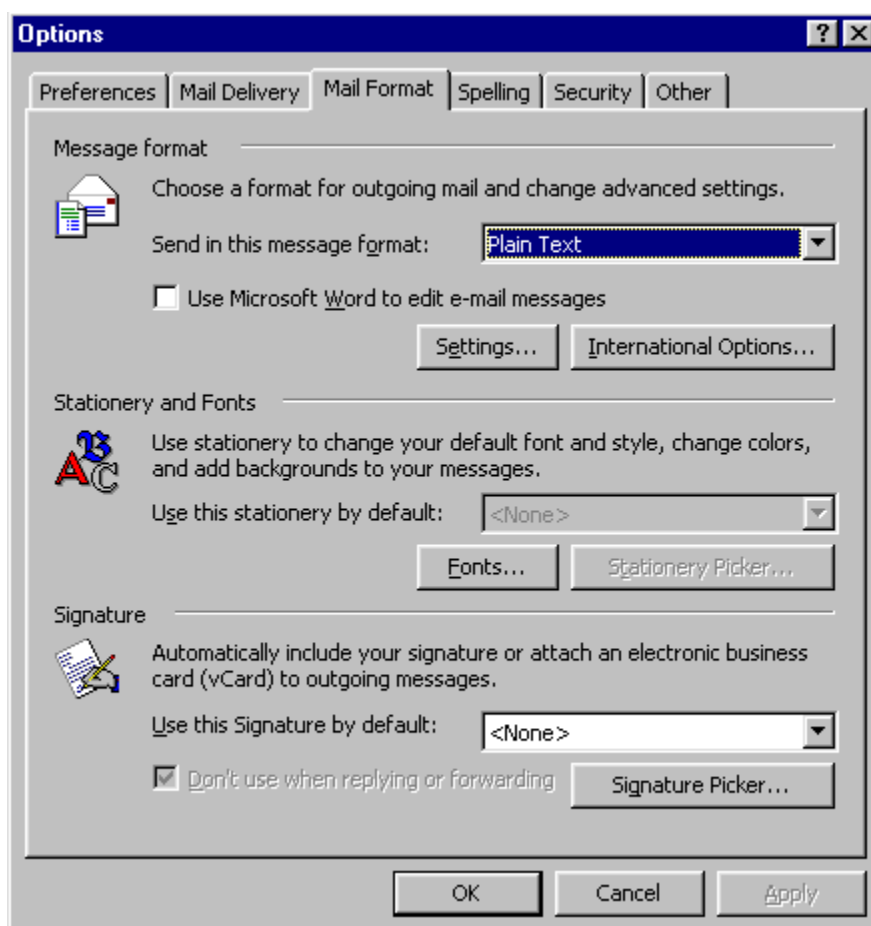
File Delivery Method: Files may be transferred between sites using any of three methods.

FTP - 'File Transfer Protocol'. If you have access to an Internet directory you may use this method to send and receive files between your locations. Your web hosting service provider typically provides you with space for your web site HTML pages. **This is the second fastest communication method**

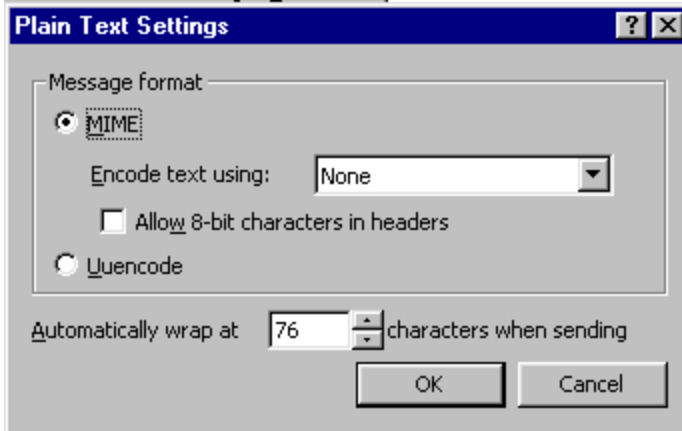
to use. Choose this if it is available and you do not have access to a VPN (virtual private network).

POP-EMAIL - If you have access to email services that use a POP3 server for retrieval and SMTP server for sending then you may setup email accounts to send and receive data between your locations. You do not need to have any email program running on the computer as this option manages all the email sending and receiving functions. In addition to an email address you will need to obtain the outgoing mail SMTP server name, incoming mail POP-3 server name, email account name and email account password.

OUTLOOK-EMAIL - If you are using Outlook to manage your email (sending and receiving) choose this setting. You only need to know the email address to setup this option. Outlook should be kept running (but may be minimized) while the SyncDBF-DBF program is in use. It is Outlook that will initiate and manage email sending and receiving. The SyncDBF-DBF program will add outbound emails to the Outlook mail queue and obtain incoming emails from the Outlook default mail folder. **** Special Requirement for Outlook Users.** If some locations will be using OUTLOOK-EMAIL and other locations are using POP-EMAIL be sure to set the mail format option in Outlook to use Plain Text and the message format to "MIME".and Encode text using "None" The following two screens show how to set these values in Outlook.



Set the message format to Plain Text then click on "Settings" to get to the screen below:

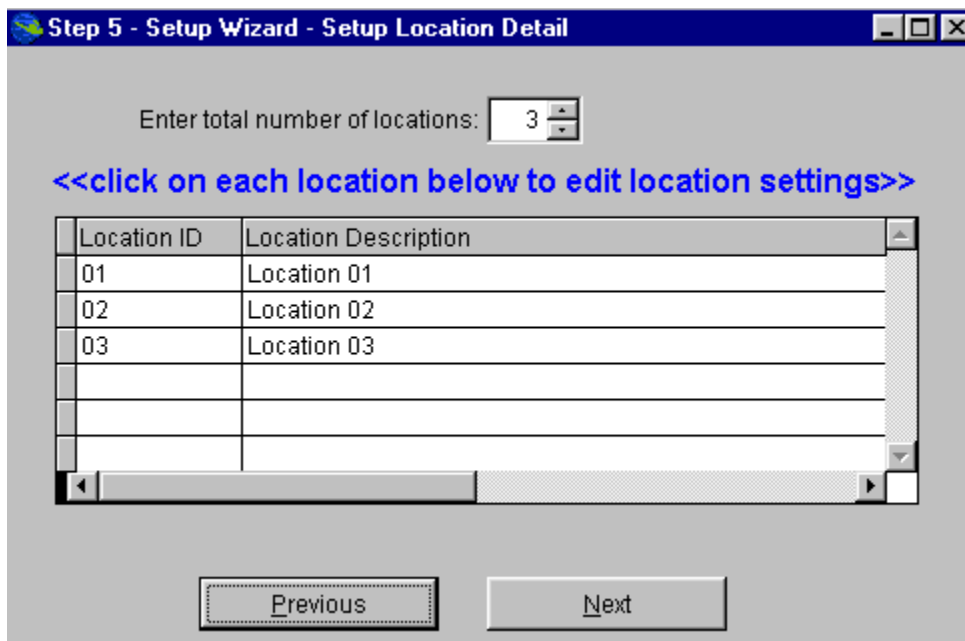


Click on MIME and Encode text using None then click OK to exit.

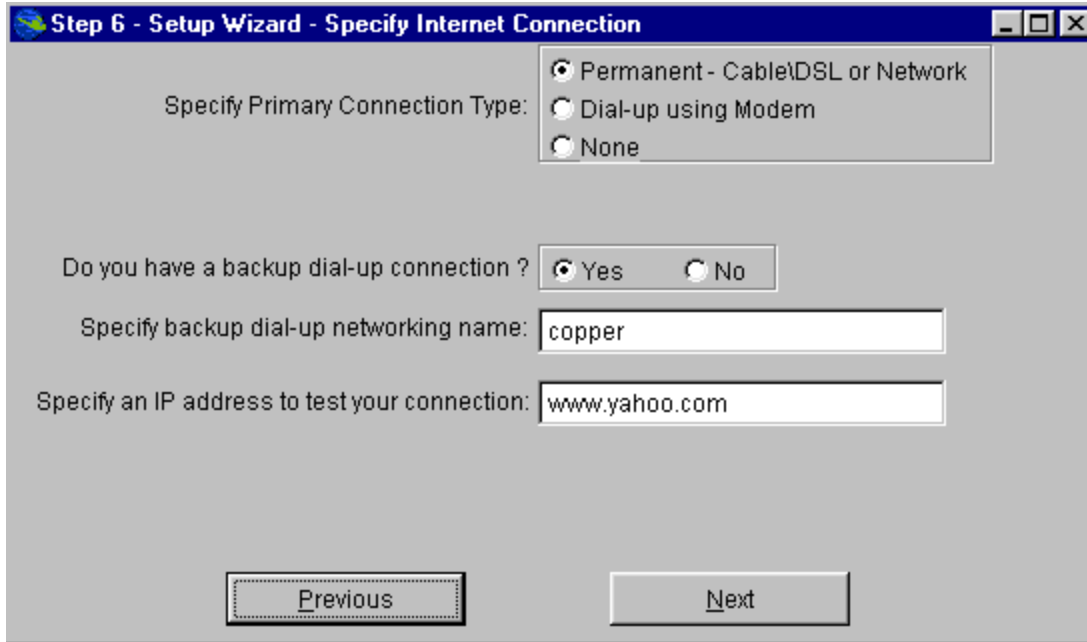
These settings will ensure that email file attachments will be sent without using the TNEF (Transport Neutral Encapsulation Format). Most other mail programs (Non Microsoft) do not know how to handle the TNEF attachments so their use should be avoided.

NETWK - Network or Virtual Private Network. If you have a network connecting your offices then choose this option. Configure the network so that the machine running the sync program at each location has access to the same directory. This shared directory will be used to exchange information between locations. **This is the fastest communication method to use. Choose this if it is available.**

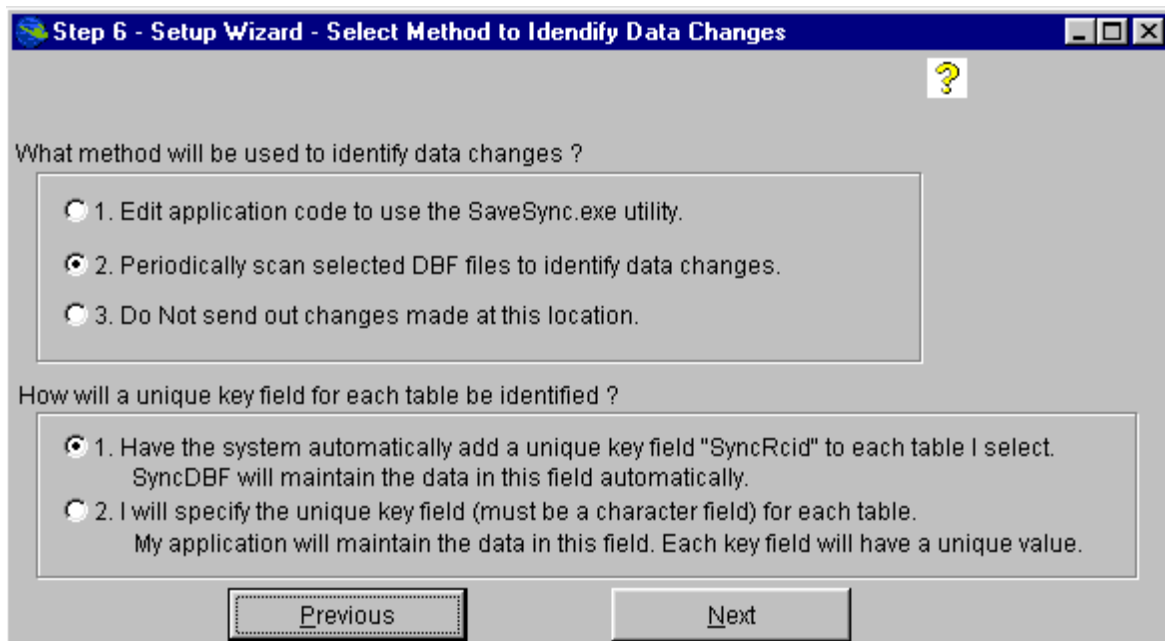
13. Pick the location communication method. Click "Next" to continue to the next screen. (below)



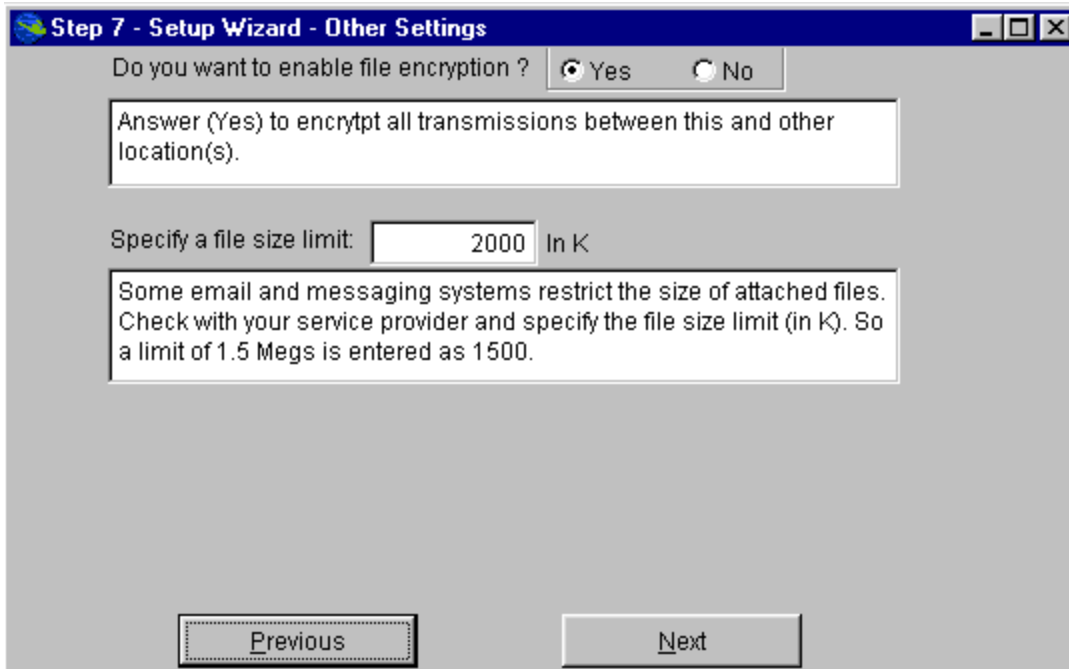
14. Enter the number of locations. Then click on each location id number to set the communication parameters for each location. Each location will display two location configuration screens to be completed. For help with screen settings click on the question mark icon on the top right of the screen. When ALL location records have been configured click "Next" to continue to the next screen. (below)



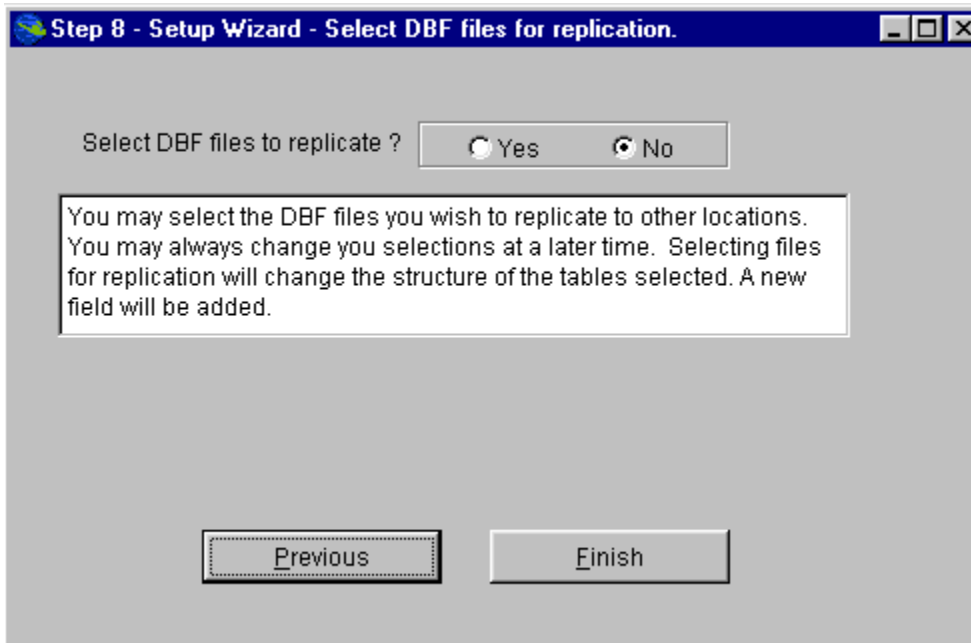
15. Specify the type of Internet connection you have. For dial-up connections specify the network name as you have setup under Windows dial-up networking. (Click on My computer \ Dialup networking to see these values). Click "Next" to continue to the next screen. (below)



16. Click on the question mark icon on the upper right for instructions on how to set these values. These **settings are very important** so be sure to **read the help carefully**. After reading the help text answer these questions and click "Next" to continue to the next screen. (below)



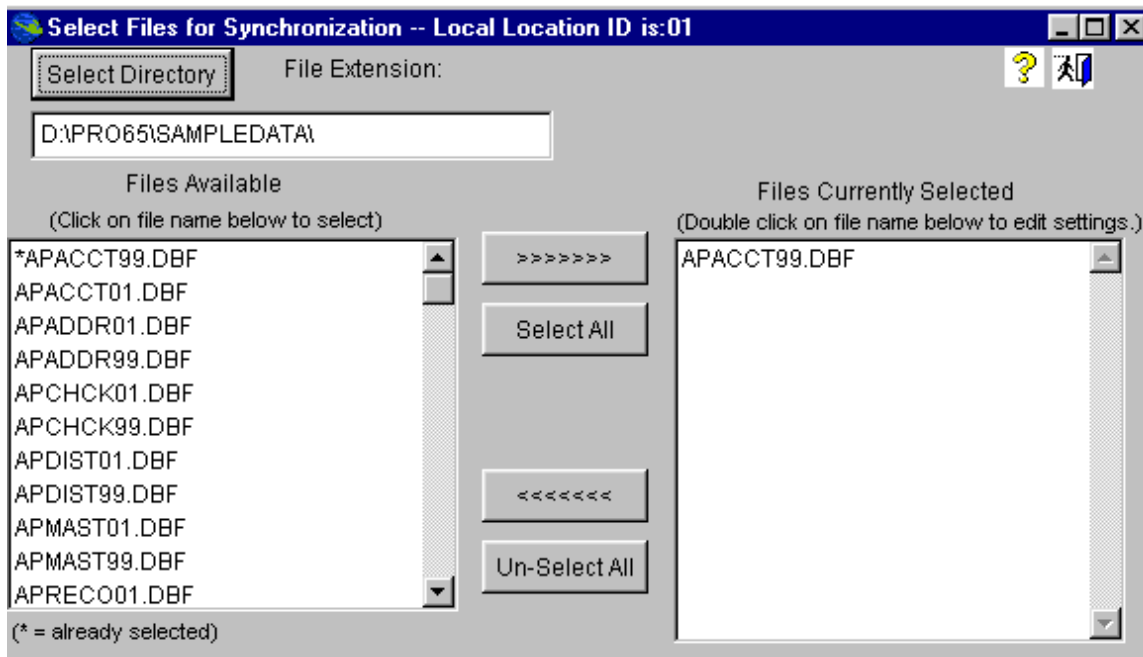
17. Answer the questions on the screen above and click "Next" to continue to the next screen. (below)



18. If configuring the host location (01), you will see the screen above. Use this screen to select the "DBF" files you wish to replicate to other remote locations. You may add or remove files at any time by using the Maintenance program. Click "Next" to continue to the next screen. (see #20 below)

Warning: This program may add a new field to each table you select. If you are not sure your legacy applications will work properly on tables with added fields, run the Sync program on a **copy** of your application tables as a test. Then run your legacy application using these modified copies to be sure your application functions properly.

If you are configuring a remote location (location 02 or above) the above screen will be skipped.



19. If you selected "Yes" to select "DBF" files to replicate you will see the screen above. Be sure you have read the **warning** in #18 above. If you are not sure our other applications will work properly with fields and indexes added to the tables then exit this screen without selecting any "DBF" files. Click "Select Directory" to pick the directory that contains the files you wish to select.

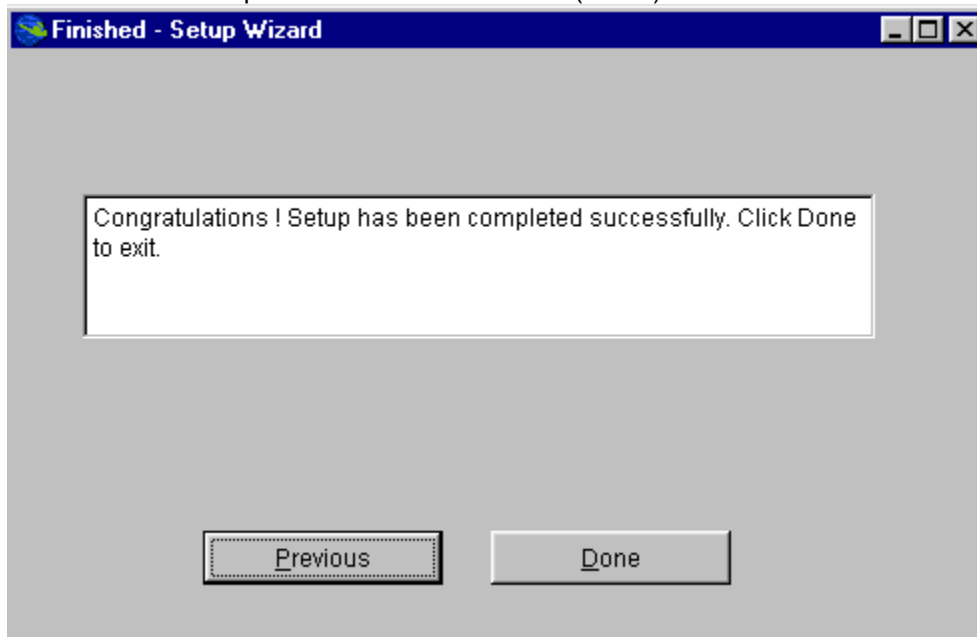
Click on the individual DBF files in the left-hand window. As files are selected they will show on the right window under "Files Currently Selected". When you have finished selecting files click on the Exit Door icon on the top right of the screen. You do not need to double click on the files to edit the setting at this time. Just select them so they show in the right hand window.

You will see a message window "New files selected. Updating Dictionary." At this point the system may add new fields to your selected tables. Be sure all systems that may be using the selected "DBF" files are shut down. This one time operation requires that you be the only one using the selected "DBF" files. After you are all users are out of any system that may be using the "DBF" files click "OK" and the data dictionary will be updated.

You will be returned to the "Step 8 - Setup Wizard" screen below.



20. Click "Finish" to proceed to the next screen. (below)



21. All done! Click "Done" to complete the program and return to your desktop.

Maintenance

Process Data

After the installation process is completed there will be three icons added to your desktop. The "Maintenance SyncData-DBF" icon is used to change system settings, review processing logs and to add or remove DBF files from the synchronization process.

Confirm System Defaults

This screen displays the serial number and location ID for this installation. Click OK to proceed to the main menu or click on check setup values to view the "Edit Sync Setup Values" screen.

Polling

The polling button launches "Polling.exe". This process may also be launched by clicking on the desktop icon "Polling SyncData-DBF" There should be one session of polling running at any time. The polling program continuously runs four sub-processes

Getfiles.exe - This program checks for any files sent from other locations to this location and downloads them for processing.

Sendfiles.exe - This program checks for any files to be sent from this location to other locations. If any files are found they are transmitted to other locations.

Findchanges.exe-This program scans the selected DBF files on the local network and performs any scheduled processing. If the "Scan Files For Changes" method has been configured, then the files are scanned for any field changes. Any changes found are compressed and encrypted and setup for transmission to other locations.

Postfiles.exe - This program checks for any unprocessed files that have been downloaded to this location. The files are uncompressed and posted the DBF files on the LAN server at this office location.

Send Files

This option launches Sendfiles.exe. This process will run continuously until terminated by the operator. Use this option if you do not wish to run polling and have some files to be transmitted to other locations.

Receive Files

This option launches Getfiles.exe. This process will run continuously until terminated by the operator. Use this option if you do not wish to run polling and have some files to be downloaded from other locations.

Post Files

This option launches Postfiles.exe. This process will run continuously until terminated by the operator. Use this option if you do not wish to run polling and have some files to be processed and posted to this location.

Scan

This option launches Findchanges.exe. This process will run continuously until terminated by the operator. Use this option if you do not wish to run polling and have want to check your DBF files for changes.

View Logs

This option offers a screen to view the results of the four synchronization processes above. Select the date and process log to be viewed. There is a separate log for normal activity and errors. These files are stored as text files in a folder under the SyncData-DBF program directory and may be viewed with any editor. Keep in mind that if you open a log file using another editor for today while polling activities are running an error will occur when the process tries to access the log file to record activity. Using this screen to view logs avoids this problem as the program makes a copy of the log file for viewing purposes.

Log files are store in the "C:\Program Files\SyncData\Data_A\Log\ directory. The format is
yyyymmddSend.log shows normal activity for the Sendfiles.exe process on the date.
yyyymmddSend.err shows all errors in processing for the Sendfiles.exe process. The same naming convention is used for the other three processes (Post, get, find).

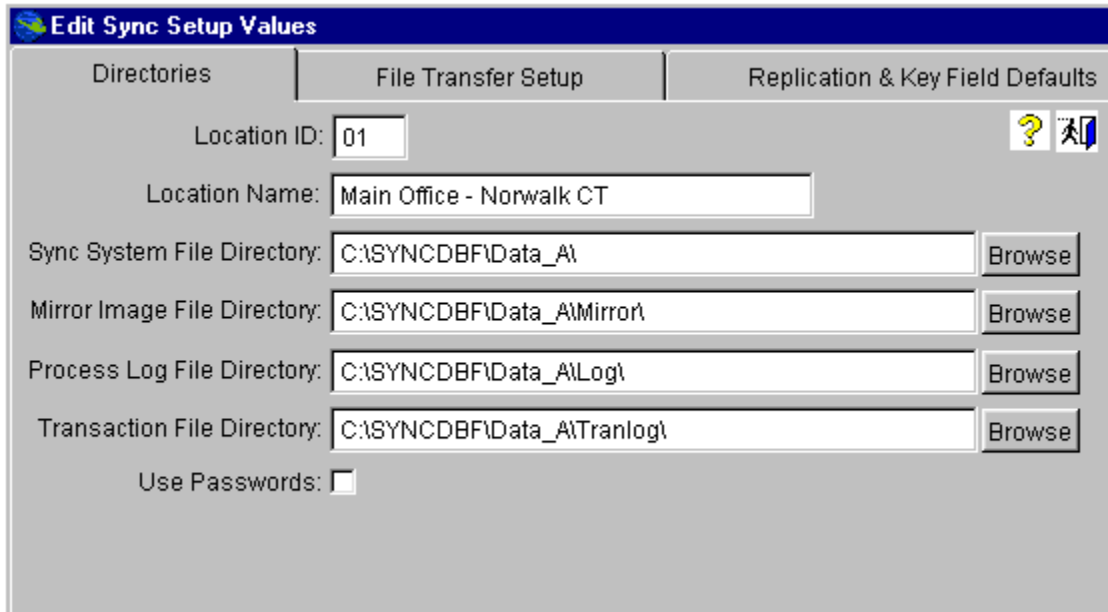
The older log files may be erased every week or so to avoid cluttering up the hard drive.

Repost errors

This option launches Postfiles.exe with an option to reprocess transactions that were previously rejected. This process will run continuously until terminated by the operator. Use this option if you do not wish to run polling and have some files to be re-processed and posted to this location.

File Maintenance

Edit Sync Setup Values



 Click the question mark to display the help file for this screen.

 Click on the exit door to exit this screen.

Location ID: Each office location is assigned a location ID. An integer from 01 through 99. The central office must be assigned a location ID of '01' and all other remote offices are each assigned a unique number from '02' through '99'.

Location Name: Enter the name of this location. You may assign any name you wish. The office location or city works well.

Sync System File Directory: This is the drive & directory the sync system files will be stored in. The system will default it to be \Data_A\ when you install the software. You may change this to another name if you wish.

Mirror Image File Directory: This is the drive & directory of the directory that will contain an extra working copy of the files you will be linking to other remote offices. The system will default it to be '\Data_A\Mirror\' when you install the software. You may change this to a different drive & directory if you wish. Remember that this drive should have adequate disk space to hold a complete copy of the files you select to sync with the other offices.

Process Log File Directory: Specify the drive & directory for system log files to be saved. The system will default to location to be '\Data_A\Log\' when you install this software. You may change this to a different drive & directory name if you wish. As the system does its stuff it records system file transfer and posting activity to text log files. These files may be viewed by any text editor. The naming convention is: `yyyymmddtttt.log` where
YYYY is the year
mm is the month
DD is the day

tttt is the name of the task (or program) being run.

For example: To view all the files sent out from this location on Nov 15, 2002 you would open the log file 20021115get.log To view any errors that occurred on the same day for sending files you would open the file 20021115get.err The other tasks are:

send=files sent out to other locations

post=received files that are posted to this location

find=process of scanning files for changes.

get=files received to this location

Browse Button(s)This button makes it easier to select a drive & directory location. The drive & directory you select using this button is automatically saved to the screen input area to the left of the button.

Transaction File Directory:If you choose to use the SaveSync.exe utility in your application to capture data changes, specify the directory that will temporarily hold these transactions until replicated to remote sites. Click on the tab "Replication & Key Field Defaults" to read more about the replication options. The system will default to location to be \Data_A\Tranlog\ when you install this software. You may change this to a different drive & directory name if you wish.

Use Passwords:Checked (default). Check this box if you want to be required to enter a user-id and password to access the system.

Edit Sync Setup Values

Directories | File Transfer Setup | Replication & Key Field Defaults

File Deliver Method: FTP

FTP Transfer Lag Time: 2 (In Seconds)

Total FTP Space Limit: 35 (In Megs)

Individual file size limit: 2,000 (In K)

Dial-up Ntwk Name: copper [Check Network Name]

IP Address for Test Ping: www.yahoo.com [Test Ping]

Enable File Encryption:

Minutes to wait between events:

Send Files: 5 Get files: 5 Look for changes: 5 Post chngs: 5 Repost: 15

Click the question mark to display the help file for this screen.

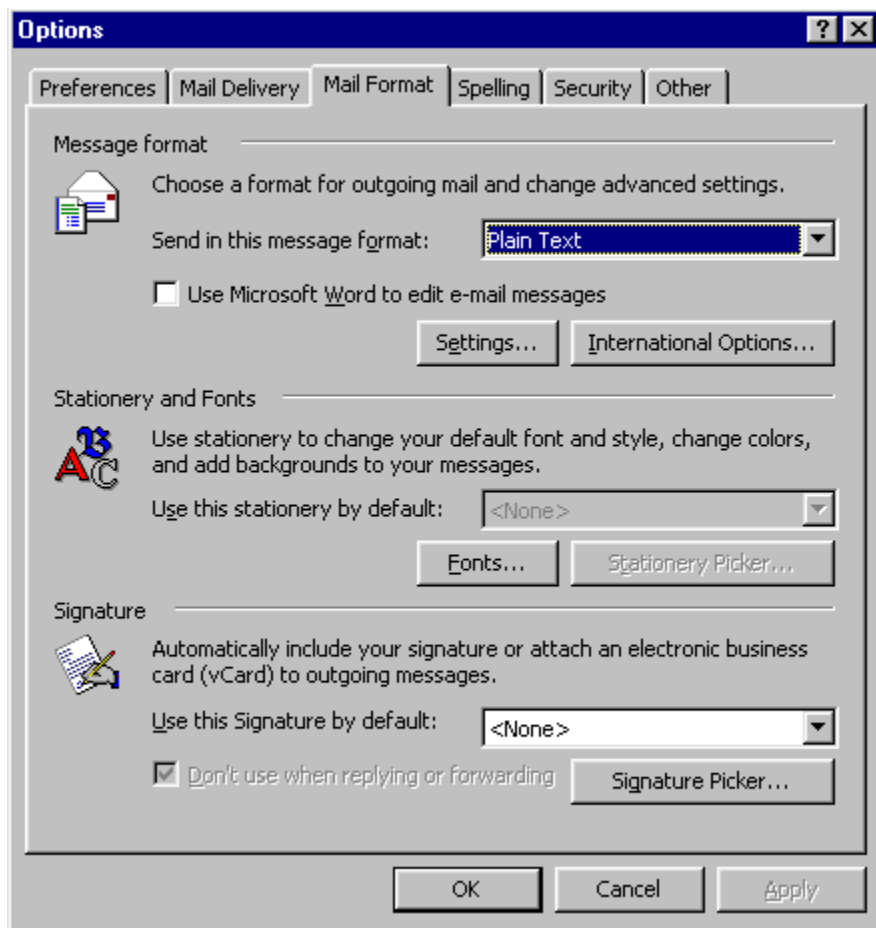
Click on the exit door to exit this screen.

File Delivery Method: Files may be transferred between sites using any of three methods.

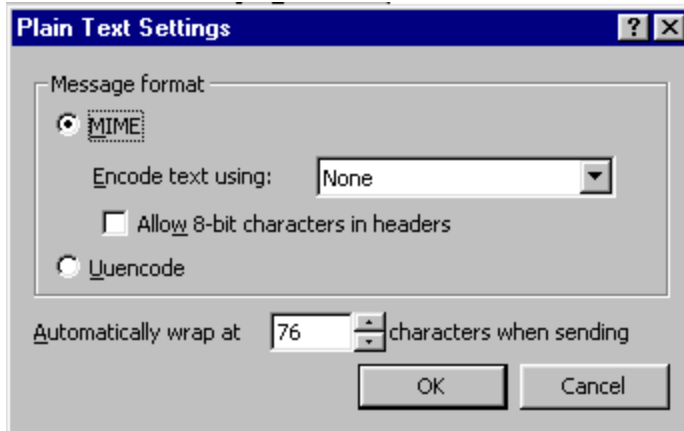
FTP - 'File Transfer Protocol'. If you have access to an Internet directory you may use this method to send and receive files between your locations. Your web hosting service provider typically provides you with space for your web site HTML pages. **This is the second fastest communication method to use. Choose this if it is available and you do not have access to a VPN (virtual private network).**

POP-EMAIL - If you have access to email services that use a POP3 server for retrieval and SMTP server for sending then you may setup email accounts to send and receive data between your locations. You do not need to have any email program running on the computer as this option manages all the email sending and receiving functions. In addition to an email address you will need to obtain the outgoing mail SMTP server name, incoming mail POP-3 server name, email account name and email account password. See the note about **** Special Requirement for Outlook Users** below. If Outlook is installed the SyncData-DBF, set the parameters as described to avoid problems even though you will be using POP-Email.

OUTLOOK-EMAIL - If you are using Outlook to manage your email (sending and receiving) choose this setting. You only need to know the email address to setup this option. Outlook should be kept running (but may be minimized) while the SyncData-DBF program is in use. It is Outlook that will initiate and manage email sending and receiving. The SyncData-DBF program will add outbound emails to the Outlook mail queue and obtain incoming emails from the Outlook default mail folder. **** Special Requirement for Outlook Users.** If some locations will be using OUTLOOK-EMAIL and other locations are using POP-EMAIL be sure to set the mail format option in Outlook to use Plain Text and the message format to "MIME". The following two screens show how to set these values in Outlook.



Set the message format to Plain Text then click on "Settings" to get to the screen below:



Click on MIME and set Encode text using:"None" then click OK to exit.

These settings will ensure that email file attachments will be sent without using the TNEF (Transport Neutral Encapsulation Format). Most other mail programs (Non Microsoft) do not know how to handle the TNEF attachments so their use should be avoided.

You may need to set Outlook using these settings even if you will be using the "POP Email" option as the Outlook settings affect the operation of the POP Email.

NETWK - Network or Virtual Private Network. If you have a network connecting your offices then choose this option. Configure the network so that the machine running the sync program at each location has access to the same directory. This shared directory will be used to exchange information between locations. **This is the fastest communication method to use. Choose this if it is available.**

FTP Transfer Lag Time: Some Internet Service Providers will block an IP address from accessing their FTP server if they receive several requests in a very short time frame (like more than 10 requests in 10 seconds). This is done malicious attacks on sites by some hackers. To prevent your requests from being blocked you may enter a number of lag seconds between FTP transactions. Trial and error will give you the best value for this parameter. The system defaults the value to 3 seconds.

Total Site Disk Space Limit: If your FTP server or Network directory have a total space limit, enter it here. This will prevent the system from copying additional files to the server if the total space used exceeds this limit. Under normal operations when both host and remote sites are up and running, there will be a very limited amount of space used. The transfer files only remain on this server until they have been successfully received by the other location, then they are removed from the server.

Individual File Size Limit: Some email services may restrict the size of files attached to your emails. Indicate the file size limit here. In the example above 1,500 is entered meaning that any files over 1.5 Megs in size will be chopped up into smaller pieces and sent separately. Don't worry, the system will automatically put the pieces back together at the other end. If you are using the FTP or NETWK file delivery methods you can probably set the file size limit to a higher number like 999,999. This will allow you to transfer files up to almost a Gig in size as file. Most free email systems support attached files of about 3 Megs while the pay for email services support attached file sizes from 5 to 10 Megs. Microsoft free instant messaging service supports attached file size of 1 Meg.

Dial-up Networking Name: If you will be using a modem to dial-up your Internet connection enter the name of the phone book entry here. For Windows 95&98 users this is the name of the entry shown when you click on My Computer then click on Dial-up Networking. For Windows 2000 users click on 'My Network Places' then click on 'Network and Dial up Connections'. Your ISP will help you setup this connection if it does not exist. They will advise you with an access phone number, account

number and password. The system will automatically use this dial-up entry when it cannot find a permanent cable, DSL or Proxy network connection.

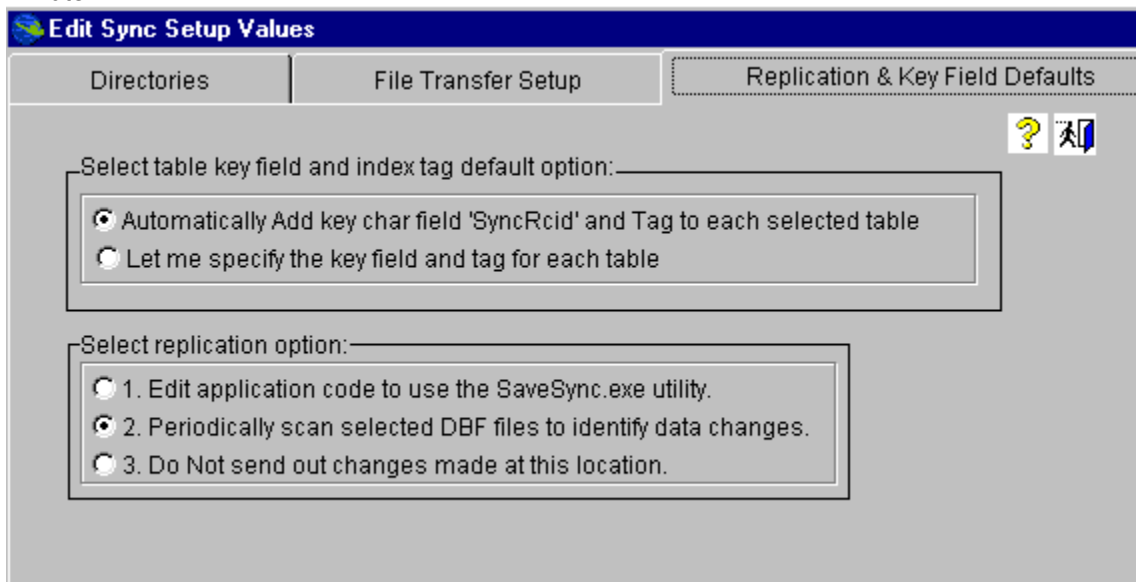
Check Network Name Button Click on this button to check to see if the dial-up networking entry exists with the name you specified.

IP Address for Test Ping: Enter an IP address the system can use to test its Internet connection. Pick a site that is always on. The system uses this IP address to test for a good connection to the Internet.

Test Ping Button: Click on this button to test your Internet connection.

Enable File Encryption: Checked (default). Check this box if you want the compressed data packets you send between location to be encrypted. Once encrypted they may only be opened using a secret system generated password that is different for each file.

Minutes to Wait between Events: The basic processing consists of 4 separate events. Sending files, getting files, looking for changes and post changes (and re-posting changes that were previously rejected). Specify the minimum number of minutes to wait before running the same event again. The default is 2 minutes. These values may be changed as needed in order to tune your system. For example, if you have a site that makes very few changes each day, you may want to set the time between events to 20 Minutes. This will avoid unnecessary processing and network traffic. If the information is time critical and must be transmitted as soon as possible then set the values to 1 minute.



 Click the question mark to display the help file for this screen.

 Click on the exit door to exit this screen.

Select table key field and index tag default option:

Each .dbf table selected for replication must have a field that contains a unique key. This means that the data in the field must uniquely identify the record. This field must be a character variable and must have a structural .cdx index tag with the key field expression.

Automatically Add key char field...

Select this option if you are not sure what the heck all this means, or you are not sure you have such a field in each of the tables you wish to replicate to other locations. The system will automatically add a new character field to each .dbf table as they are selected. The field name is "Syncrcid". A structural index tag with the same name is also automatically created. Be sure no other programs are using the file when you select the tables as they must be opened with exclusive use by the Sync program in order to add the 'syncrcid' field and index tag

BE SURE YOU TEST THE SYSTEM ON AN EXTRA COPY OF YOUR LIVE TABLES. DO NOT TEST DIRECTLY ON YOUR LIVE TABLES. Some older applications written in Clipper or Foxplus do not support structural CDX files. If the SyncData-DBF system adds fields to these tables they may not be able to be opened by your other applications. The best way to know for sure is to test the SyncData-DBF system on copies of your live data files. After SyncData-DBF has added the new field and index try opening the tables using your applications to be sure everything is working properly. If the test goes well then you may select the live files directly (after backing up all of our live tables). When you first select the live .DBF tables no other applications may be using the tables. The onetime process of adding the field and structural index requires that the SyncData-DBF system have exclusive use of the table. Once the tables are selected and fields and indexes added the other applications may use the tables concurrently with the SyncData-DBF system. The SyncData-DBF system is designed to be compatible with FoxPro for Dos 2.x, FoxPro for Windows 2.x, Visual FoxPro (all versions).

Let me specify the key field...

Select this option if you don't want the Sync system to add a field to your application tables and you know of a unique key character that meets the requirements above. After selecting the .dbf table use the "Edit File Settings" screen to specify the unique key field name and index tag.

Select Replication Option:

Changes made to .dbf tables at this location must be identified, summarized in transaction files and replicated to other sites. There are ways the system can identify changes to fields in the selected .dbf tables.

1 - Edit application code to use the SaveSync.exe utility. If you will be using the data at this location for "read-write" purposes like printing reports, editing and changing data then you may select this option. Any data replicated TO this location from other locations will be posted the DBF files, and any changes made to data at this location will be replicated out to other locations. If you (or your programmer) can edit your application program then you should consider using this small utility program to capture data changes. You may copy the file savesync.exe from the SyncData-DBF installation directory to your application directory.

Using this program requires that your application enable row buffering. First issue the command 'Set Multilocks on' then open your DBF file. Use the cursorsetprop command to activate row buffering for each table (.DBF) file you open. Example: `x=cursorsetprop('Buffering',2,"MYALIAS")` The second option may be a 2 for pessimistic row buffering or a 3 for optimistic row buffering. When using row buffering, after changes are made to fields the command `x=tableupdate()` is used to commit the changes. Instead of using this command in your code, replace it with the SaveSync.exe program. The format of the command is as follows:

`x=savesync('aliasname','keyfieldname',.f.,'c:\syncdbf\loc01\send\tranlog')` The first parameter is the table alias name, the second parameter is the name of the field or expression that contains the unique key expression, the third parameter is .f. to replicate only the fields that have changed or .t. to replicate the entire record. You should normally only use the .f. parameter. Use the .t. parameter to replace the entire record at other locations with this record. Only do this if you are sure the data in this record is correct. The fourth parameter is the location of the directory that will temporarily hold the log files. This directory is setup automatically when SyncData-DBF is loaded. To check the directory name select 'File Maint' and 'Edit Sync Setup Values'. Check the value labeled 'Transaction File Directory'.

To make programming life easier you may omit the last parameter when calling the Savesync utility. Setup an environment variable in the autoexec.bat of each computer that will running your application. Add the command line: Set tranlog=c:\syncdbf\loc01\send\tranlog\ to the appropriate startup batch file (for win 9x its autoexec.bat). Be sure to reboot your system after making changes to the .bat file. In the example above substitute your values for c:\syncdbf\loc01\send\tranlog\. Again, check Edit Sync Setup Values for the values for "Transaction File Directory" and use that information in the .bat file. The Savesync.exe utility will check for data in the environment variable 'tranlog' if the drive and path are not passed to Savesync.exe.

Advantages of this method are that field changes are immediately written to the log files. The process of scanning all the tables for changes is eliminated and the changes are replicated to the remote locations that much quicker. The Disadvantage is that a program change to your source code is required. If you do not have access to your source code or you do not have a programmer that can make the changes the use option 2.

2 - Periodically scans selected DBF files to identify data changes.

If you will be using the data at this location for "read-write" purposes like printing reports, editing and changing data then you may select this option. Any data replicated TO this location from other locations will be posted the DBF files, and any changes made to data at this location will be replicated out to other locations. The files are periodically scanned and any data fields where the data has changed are posted to transaction files and replicated out to remote locations. The advantage of this approach over Option 1 is that no changes to your application source programs are required

Another thing to watch when choosing the scanning method is the scanning cycle time. This is the time it takes to complete a scan of all files selected. If you want all locations to receive your changes within 10 minutes of the data change but it takes an hour to scan all your files you will not be a happy camper. As you select tables you can edit the settings to make your cycle time as short as possible. See "Tuning the System" topic.

3 - Do Not send out changes made at this location:

If you will be using the data at this location for "read only" purposes like printing reports or viewing data on screens, or as a backup of data from other locations then choose option 3 (Do Not send out changes made at this location.) This means that any data replicated TO this location from other locations will be posted the DBF files. You can print stuff and look up stuff until your hearts content. If you make changes to the DBF file at this location they will NOT be replicated to other sites.

Edit Sync Locations

Location ID: Each office location is assigned a location ID. An integer from 01 through 99. The central office must be assigned a location ID of '01' and all other remote offices are each assigned a unique number from '02' through '99'. Enter the 2-digit location ID you wish to edit and hit enter. You may also select the location from the pull down list to the right. The Host installation (Location 01) will allow up to 99 locations to be setup. A Remote installation (other than Location 01) will allow only two locations to be setup (that remote location and Location 01).

Location Description: Enter the name of this location. You may assign any name you wish. The office location or city works well.

General note about directory information: The directories will default to the values shown above. You may use the default setting or specify your own directory names. Be sure the directories are not used by any other programs.

Local Receive Dir: Specify the directory that will receive files to be posted to this location from all other sites. This will only show when editing the record for the local location ID. If you were working on the host location 01 site then this field would only show for the location 01 record.

Local Send Dir: Specify the directory that will hold files waiting to be sent to the Location ID. This must be specified for each location record.

Local Working Dir: Specify a directory the system will use to hold temporary files when posting. . This will only show when editing the record for the local location ID.

Pending File Count Limit: Specify the allowable number of unprocessed files for any location. If the number exceeds this limit then no more files will be sent to that location. They will continue to accumulate as .zip files on the originating PC, but will not be sent (by email, FTP or VPN) to the target location. This prevents the file transfer system (email, VPN or FTP) from getting clogged up. Once the target has processed the pending files the other locations automatically resume sending additional files.

Pending Space Limit: Similar in function to the "Pending File Count Limit" above. Specify the total disk space limit (in Megs) for the number of unprocessed files for any location. If the Megs exceeds this limit then no more files will be sent to that location. They will continue to accumulate as .zip files in

the originating PC, but will not be sent (by email, FTP or VPN) to the target location. This prevents the file transfer system (email, VPN or FTP) from getting clogged up. Once the target has processed the pending files the other locations automatically resume sending additional files.

The screenshot shows the 'Edit Sync Locations' dialog box with the 'Local Directories' tab selected. The 'Location ID' is set to 02 and the 'Location Description' is 'Location 02'. The 'Local Send Dir' is 'C:\SYNCDDBF\loc01\send\loc02\'. The 'Pending File Count Limit' and 'Pending Space Limit' are both set to 99,999. The 'Remote Files Drive Letter' is 'C'. The 'Remote Sync File parent directory' is empty. The checkbox 'Copy new data files from location 01 to this remote location.' is checked. The buttons 'Edit', 'Fwd', 'Back', and 'Delete' are visible at the bottom.

Remote Files Drive Letter: This field will only show at the host site (location 01) when editing remote location records (other than location 01). Use this field to specify an alternate drive letter for the remote location. Lets say the files you will be sharing on the host (location 01) network are on drive letter 'F' and the replicated copies of these files on the remote computer (location 02) are on drive letter 'D'. In this situation you would fill in the letter 'D' so that the drive letter of the selected files on the host are substituted with a 'D' so they find the correct file on the remote computer. If the drive letters are the same on both host and remote computers then leave the field empty.

Remote Sync File Parent Directory: Specify a parent directory on the computer at the remote location to receive the files on the host (location 01). Example: I select to replicate and share a file on the host computer 'F:\pro50\sampladata\armast01.dbf'. I want to have the file placed on the remote location computer drive 'D' under the directory '\shared' so that ultimately the file 'D:\shared\pro50\sampladata\armast01.dbf' winds up on the remote computer. To accomplish this enter 'shared' as the file parent directory. Leave this blank and the files will replicate to the same directory on the remote location computer.

Copy new data files from location 01 to this remote location. This field will only show at the host site (location 01) when editing remote location records (other than location 01). This flag is automatically checked when a new location record is added at the host (location 01) location. This will force the system to copy a complete set of files to this remote location. After the files are copied the flag is automatically un-checked. This may be checked again if a new set of files needs to be copied

to a remote location. This may be needed if a new computer is installed at a remote location or some of the files at the remote location are lost or damaged.

The screenshot shows a window titled "Edit Sync Locations -- Local Location ID is:01". It has four tabs: "Local Directories", "FTP Settings", "VPN - Network Settings", and "POP Email Settings". The "Local Directories" tab is selected. The fields are as follows:

- Location ID: 01 (with a dropdown menu showing "Location 01")
- FTP Root Directory: /httpdocs/ (with a "<< OK" button and the text "Sync Main Directory - (same for all locations)")
- FTP location directory: loc01/ (with a "<< OK" button)
- Site URL: syncdata.net (with a placeholder "example:website.com")
- FTP User Name: username
- FTP Password: 444444 (with a "Test FTP Directory & Copy Test File" button)

At the bottom, there are three buttons: "Edit", "Fwd", and "Back".

FTP Root Directory: Your Internet service provider (ISP) will advise you on the root directory of your web directory. Enter this value here and be sure to include the '/' backslashes. When leaving this field the system will test the settings by trying to access this directory.

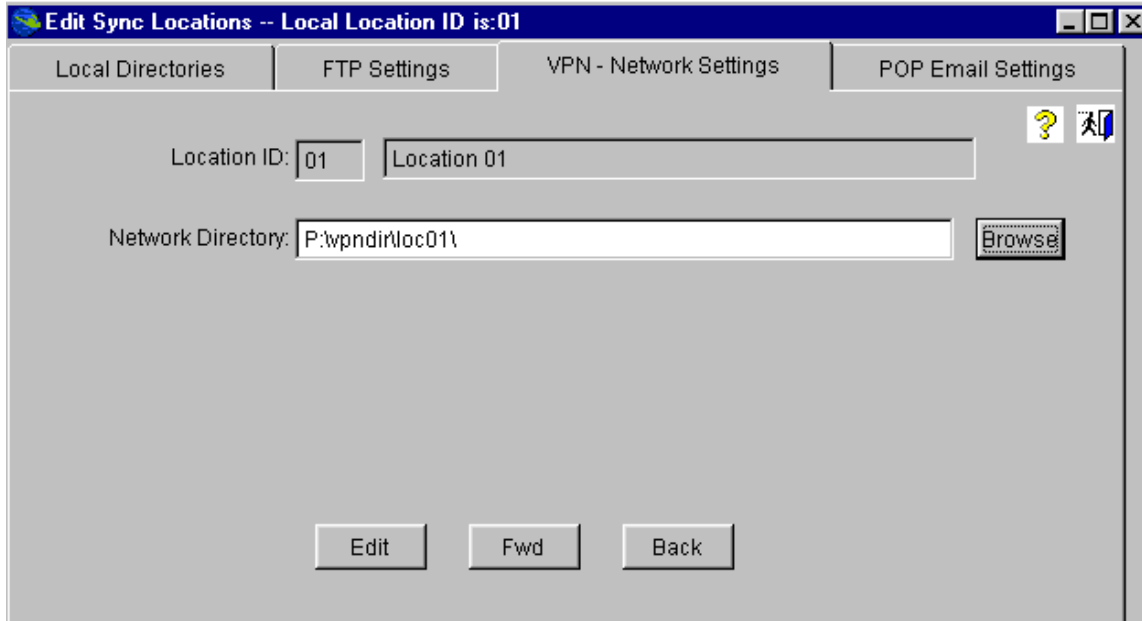
FTP location directory: Specify a directory name that will temporarily store the files going to this location. When leaving this field the system will test the settings by trying to access this directory. If the directory does not exist you will be prompted to have the directory added. Choose 'Yes' to create the directory.

Site URL: Specify the IP address or domain name for our site.

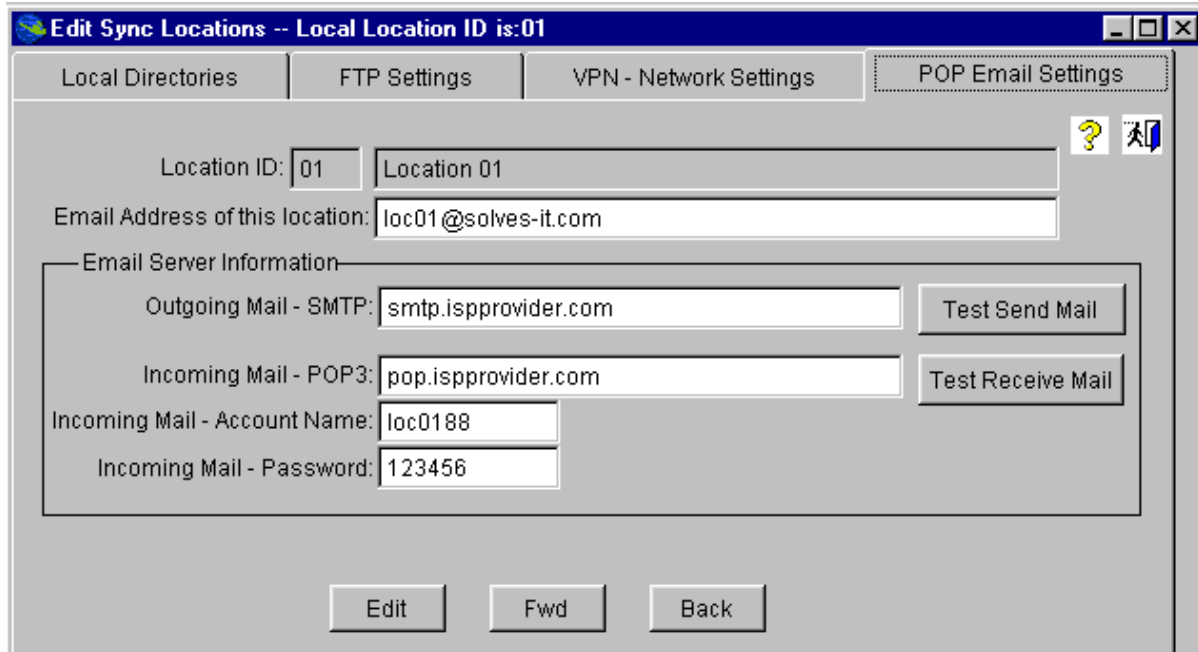
FTP User Name: Get your user name from your ISP.

FTP Password: Get your password from your ISP.

Test FTP Directory & Copy Test File: Click this button to have the system try to access the root and FTP location directory on the web server. A small test file will be copied to this location. Leave this test file on the FTP directory. This will avoid an empty directory and help speed up processing. It takes longer to get directory information from an empty directory than a directory that has some entries.



Network Directory: Specify a directory name that will temporarily store the files going to this location. When leaving this field the system will test the settings by trying to access this directory. If the directory does not exist you will be prompted to have the directory added. Choose 'Yes' to create the directory.



Email Address for this location: Specify the email address you have setup for this location. All locations that send files to this location will email their files to this email address. You will need a separate email address for each location. Your Internet service provider (ISP) will advise you on how to setup a new email account.

Test Send Mail: Click this button to send a test email to the email address.

Test Receive Mail: Click this button to access this email account. The system will display the number of email messages waiting to be received. It won't actually receive them so they will still be there to be received later on.

The remaining settings will only show if you select POP-EMAIL. They are not required for OUTLOOK-EMAIL.

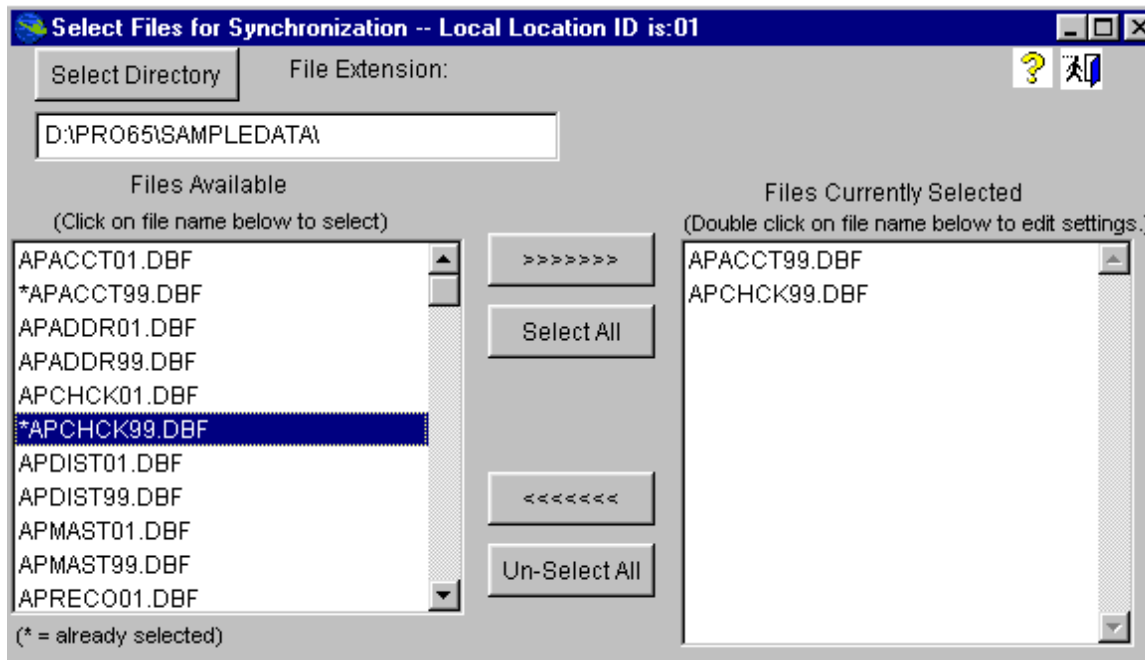
Outgoing Mail - SMTP: Your ISP will provide you with the SMTP address for outgoing mail. This will probably be the same value for all the email addresses they provide you.

Incoming Mail - POP3: Your ISP will provide you with the POP3 address for incoming mail. This will probably be the same value for all the email addresses they provide you.

Incoming Mail - Account Name: Your ISP will provide you with the email account name that goes with this email address.

Incoming Mail - Password: Your ISP will provide the password for the account name above.

Edit List of DBF Files to Sync



Warning: This program may add a new field to each table you select. If you are not sure your legacy applications will work properly on tables with added fields, run the Sync program on a **copy** of your application tables as a test. Then run your legacy application using these modified copies to be sure your application functions properly.

Select Directory: Click on this button to choose a directory to open. The directory you select will show below the button. In this example we have selected the 'D:\pro65\sampladata\' directory.

Files Available: This list box displays all the DBF files found in the selected directory. Files in this directory that have already been selected (and also show in the files currently selected list on the right) have leading "*". To select a file, simply double click the file in the left window. The system

automatically checks the file structures and adds the selected DBF file name to the list in the right window.

How to Select Files:

>>>>>>: You may also single click a file on the left and click on the '>>>>>>' button to select a file.


Select All: If you want to select all the files shown in the left window then click on the 'Select All' button. The system will work for several minutes to check the structures of each file and add it to the right window. Its ok to use the 'Select All' button even if some of the files in the left window have a leading '*' (already selected). The system will know not to add these files again.

How to Un-Select Files:

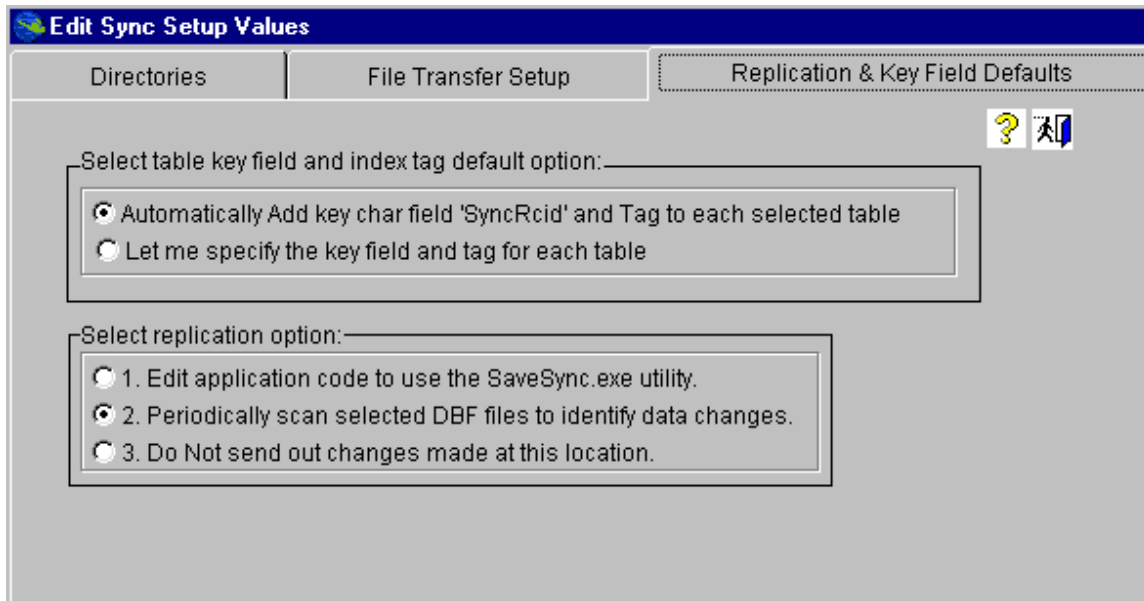
<<<<<<<<: To Un-select a file, single click the file on the right window and then click the '<<<<<<<<' button. The file will be removed from the 'files currently selected' list.

Un-Select All: WARNING: If you click on the 'Un-Select All' button then all files will be removed from the selected list, (even files you have selected from other directories).

Edit Settings: To edit the individual file settings for a selected file, double click on the file name in the 'files currently selected list'. See the help screen for the 'Edit File Settings' screen.

 When you have finished selecting files click on the Exit Door icon on the top right of the screen. If you have selected any files you will see the message window "New files selected. Updating Dictionary." At this point the system may add new fields to your selected tables. Be sure all systems that may be using the selected "DBF" files are shut down. This one time operation requires that you be the only one using the selected "DBF" files. After you are sure all users are out of any system that may be using the "DBF" files click "OK" and the data dictionary will be updated.

If you chose to automatically add a key character field "SyncRcid" on the Setup screen (sample below) then the system will automatically add a 12-character field named "SyncRcid" and will add a tag named "SyncRcid" as a structural CDX. This is required by the system to ensure each record has a unique record ID.



Edit File Settings

From Main Menu select File Maint. then choose Edit List of DBF Files to Sync, then double click on the file in the right window to edit file settings.

Edit File Settings for file:APVEND99.DBF

File Name & Location Key Tag Information Update Schedule & Statistics

File Name: APVEND99.DBF

Location: C:\PRO65\SAMPLEDATA\ Select Directory

Index Name: APVEND99.CDX Select Index File

Type of DBF file: Visual Foxpro DBC Name: prodata.dbc

Alias Name: APVEND99 DBC Location: C:\PRO65\

Target Locations: ALL (list of all locations to receive a replication of this data.)

Modify File Structure Modify Database Structure

File Name & Location Tab

All of the values on this screen default automatically when the file is selected. You may need to change the alias name and target locations as needed.

Location: This is the drive & directory containing the selected '.DBF' file. If you move the file to a new location you may record the new file location here. You may also use the 'Select Directory' to pick the new directory from a list.

Index Name: Name of the CDX file.

Type of DBF file: Pick the type of DBF file from the list. This value will default automatically so it is unlikely you will ever need to change it. Here are the possible values:

Visual Foxpro - .DBF files that are used by any Visual FoxPro application VFP3,4,5, 6 or 7

FoxPro 2X - .DBF files that will be used by FoxPro for Windows 2.x or FoxPro for Dos

Foxplus - .DBF files used by Foxplus (very old format)

Other - Other format the system could not identify the version.

Alias Name: The alias name of the file. This is most often the same as the file name (without the .DBF). Sometimes other applications have a standard that gives different aliases to files. Accpac Pro for example prefers to give alias names with the prefix 'a_'. If you wish to use a different alias name enter it here.

Target Locations: Enter the locations that should receive data from this file. Choose 'ALL' for all locations to receive the data or enter a list of location IDs separated by commas. For example, for locations 2 and 3 you would enter '02,03'. You may also use the list button to the right to select the locations from a list.

DBC Name: Some Visual Foxpro tables are associated with database containers or '.DBC' files. These files contain information about the relationships between .DBF tables. The system will fill this in automatically with relevant '.DBC' information. You will probably not need to change this information.

DBC Location: The location of the '.DBC' table.

Modify File Structures: Click this button to edit the data structure of this file. This use the modify structure command in Visual FoxPro.

WARNING: If you are not sure that the your applications allow changes to file structure be sure to make a complete backup of your original files before modifying the structures.

Modify Database Structure: Click on this button to modify the database container (if one exists). This feature requires that you are running the developers' version of Visual FoxPro. The reason for this option is to allow editing of any triggers that may be in use to allow the .dbf files to be opened from outside the application.

The screenshot shows the 'Edit File Settings for file:APVEND99.DBF' dialog box. The 'Key Tag Information' tab is selected. The 'User specified key field' radio button is unselected, and the 'Have Sync create a key field and maintain it' radio button is selected. The 'Key Expression' field contains 'SyncRcid' and has a dropdown arrow. Below it is the text '(Must evaluate to a character expression)'. The 'Key Tag Name' field also contains 'SyncRcid' and has a dropdown arrow. The 'Duplicate count' field contains '0' and there is a 'Check for records with duplicate keys' button. Below it is the text '(Number of records with duplicate key values.)'. At the bottom of the dialog are two buttons: 'Modify File Structure' and 'Modify Database Structure'.

Key Field: Select either User Specified Key Field or Have Sync create a key field and maintain it.

Discussion about key fields:

In order for the system to detect field changes in the .DBF tables, each .DBF table must have a field or group of fields that make up a unique key to that record. For example, if you have a .DBF table of people with names, addresses and social security numbers you could specify that the field for social security number be the key expression. The rule is that no 2 records in the .DBF table will ever have the same key value. After specifying the key expression for social security number 'SSNO' you must then specify the TAG that evaluates to the "SSNO" expression. You may then click on 'Check for records with duplicate keys' and the system will scan the entire file to see how many duplicates there are. If you get a duplicate count of zero then the key expression you specified is good.

If you don't know of an existing unique key expression you may have the Sync system create a key field and maintain it for you. This will require that a 12-character field named 'Syncrcid', be added to the end of the table. and a tag 'Syncrcid' added as a structural CDX. This is often the easiest option.

When you select the table, the system defaults to "Have Sync create a key field and maintain it". You may leave this setting to this selection, but remember that the system will be adding a new field to the table, and an index tag to the CDX file.

Key Expression: Enter the field name or expression that evaluates to a character expression. This expression should uniquely identify the record. If you choose to "Have Sync Create a key field..." above then this field will be set to "SyncRcid" automatically, and may not be changed.

Key Tag Name: Enter the name of the TAG for the expression above. If you choose to "Have Sync Create a key field..." above then this field will be set to "SyncRcid" automatically, and may not be changed.

Duplicate Count: This is display only. When you click on the 'Check for records with duplicate keys' button the system will display the number of records with duplicate keys in this field. If you get a number greater than zero you have a problem with the key and the data replication will not work properly for those records with duplicate keys.

Discussion about the process of scanning for changes:

The Sync system periodically scans each of you selected files for any changes. When a change is found, that field of data is replicated to the DBF tables at the other sites. There may be some tables in your system that do not change very often. These could be history files with large volumes of data that only get updated on a monthly basis. To scan these history files every 10 minutes would be silly and would waste lots of processing power. This screen allows you to specify the scanning schedule for each file.

Wait Between Scans: Specify how much time to wait before scanning this file again. Also specify the time units using the list box to the right. Can select MIN, HRS or DAY. If you have a file that is only updated daily then specify 1 DAY.

Restrict Scanning Times: Many networks backup their files at night and if files are open and being used or scanned the nightly backup will skip the file and not back it up. If you wish to restrict the scanning operation to only happen during the day then specify the scanning window here. In the example above the scanning window goes from 6:00 am to 6:00 PM.

Make new copy to remote: This check box is only available from the Host location (location 01). To send a new complete copy of the DBF file to the remote sites check this box. Then on the next scan the entire file will be replicated to the remote site(s). This box will automatically be checked the first time a file is selected. After the file is copied the check is removed.

Make new copy of .DBC to remote: This check box is only available from the Host location (location 01). To send a new complete copy of the DBC file to the remote sites check this box. Then on the next scan the DBC file will be replicated to the remote site(s). This box will automatically be checked the first time a file is selected. After the file is copied the check is removed.

Last Scanned: Display only. Show the last time this file was scanned for changes.

Last Posted: Display only. Shows the last time replicated changes from other locations were posted to the data file at this location.

Last Copied: Display only. Shows the last time this file was copied to the remote locations.

Key Field: Select either User Specified Key Field or Have Sync create a key field and maintain it.

Discussion about key fields:

In order for the system to detect field changes in the .DBF tables, each DBF table must have a field or group of fields that make up a unique key to that record. For example, if you have a DBF table of people with names, addresses and social security numbers you could specify that the field for social security number is the key expression. The rule is that no 2 records in the DBF table will ever have the same key value. After specifying the key expression for social security number 'SSNO' you must then specify the TAG that evaluates to the "SSNO" expression. You may then click on 'Check for records with duplicate keys' and the system will scan the entire file to see how many duplicates there are. If you get a duplicate count of zero then the key expression you specified is good.

If you don't know of an existing unique key expression you may have the Sync system create a key field and maintain it for you. This will require that a 12-character field named 'Syncrcid', be added to the end of the table. and a tag 'Syncrcid' added as a structural CDX.

When you select the table, the system defaults to "Have Sync create a key field and maintain it". You may leave this setting to this selection, but remember that the system will be adding a new field to the table, and an index tag to the structural CDX file.

Key Expression: Enter the field name or expression that evaluates to a character expression. This expression should uniquely identify the record.

Key Tag Name: Enter the name of the TAG for the expression above.

Duplicate Count: This is display only. When you click on the 'Check for records with duplicate keys' button the system will display the number of records with duplicate keys in this field. If you get a number greater than zero you have a problem with the key and the data replication will not work properly for those records with duplicate keys.

User ID and Password File Maintenance

From Main Menu select File Maint., then choose Edit System Passwords

The screenshot shows a Windows-style dialog box titled "User ID & Password Master File Maintenance -- Local Location ID is:01". The dialog has a light gray background and a blue title bar. It contains the following elements:

- A label "Enter User ID to Select or Add:" followed by a dropdown menu with "ADMN" selected.
- A label "User Name:" followed by a text input field containing "administrator".
- A label "Password:" followed by a text input field containing "ADMN".
- A label "Level:" followed by a text input field containing "10".
- Four buttons at the bottom: "Edit", "Fwd", "Back", and "Delete".
- Help and About icons in the top right corner.

Enter User ID to Select or Add: Enter a user id to select or add. May be up to 6 characters in length. The system defaults a User ID of ADMN and password of ADMN. The password for the ADMN user id may be changed after you install the program. The ADMN User ID may not be deleted.

User Name: Enter the user name for the User ID above.

Password: Enter a password for this User ID.

Level: Set this to 10. This is reserved for future use.

Edit: Click this to edit user account information.

Fwd: Click this command button to move forward to the next User ID record.

Back: Click this command button to move back to the previous User ID Record.

Delete: Click this command button to delete this user ID record. Note: The user ID ADMN may not be deleted.

Polling

Polling SyncData-DBF

This polling process should be launched a single PC workstation at each office location. This process should be allowed to run all day. It may be shutdown periodically when using the Maintenance system to change file settings or DBF file selections. As long as this process is running then any data changes at other locations will be posted to the DBF files at this location and any changes made to files at this location will be sent out to other remote locations.

The polling button launches "Polling.exe There should one session of polling running per location at any time. The polling program continuously runs four sub-processes

Getfiles.exe - This program checks for any files sent from other locations to this location and downloads them for processing.

Sendfiles.exe - This program checks for any files to be sent from this location to other locations. If any files are found they are transmitted to other locations.

Findchanges.exe-This program scans the selected DBF files on the local network and performs any scheduled processing. If the "Scan Files For Changes" method has been configured, then the files are scanned for any field changes. Any changes found are compressed and encrypted and setup for transmission to other locations.

Postfiles.exe - This program checks for any unprocessed files that have been downloaded to this location. The files are uncompressed and posted the DBF files on the LAN server at this office location.

EZsetup

EZsetup SyncData-DBF

This icon launches the Ezsetup.exe program. This walks through the screens necessary to initially install the software. It may be re-run when needed to re-configure settings. You should be able to change all file settings using the Maintenance system, however, the Ezsetup.exe program provides a step by step alternative.

For detailed instructions and sample screens see the "Installation & Configuration" section of this document.

FAQ

Frequently Asked Questions

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| How do I download the software? | Visit our web site www.syncdata.net to download the latest software. |
| Is the software Live or just a demo? | It's live but it is not registered. When you buy the software we will email you an activation key and a small program. This will allow the software to run without the annoying registration notification screen. |
| What kind of files does it replicate? | It works with .DBF files. These are used by Visual FoxPro, FoxPro for Dos, FoxPro for Windows. Many accounting packages and contact manager programs store data in .DBF files. It will replicate data in all fields EXCEPT general fields. |
| Do I need a copy of Visual FoxPro? | No. We include the required runtime files to execute the SyncData-DBF program. |
| How much does it cost? | Cost is \$995 for the first 2 office locations. An additional amount for each additional location. For prices see www.syncdata.net/buyit.htm . Example, if you have offices in London, Atlanta and Chicago the cost is 1,445. It does not matter how many workstations are networked at each office. |
| How does it work? | Read the introduction section of this document. |
| Do I need to change my existing programs in any way? | No. SyncData-DBF will work with your existing programs as is. No program changes are required. Depending on the configuration you select, the SyncData-DBF may need to add a new field to each table you wish to replicate. It will also add an index tag for that new field. The index tag is stored as a structural CDX file. |
| How do I install and configure the software? | Read the Installation & Configuration section of this document. |
| I have questions. Who do I contact? | Email questions to Support@syncdata.net or phone 203-762-1153. ask for Barney Stevenson |
| Do I need any special hardware or computer server? | No. The software runs on any PC workstation running Windows 98/NT/2000 or XP. Requires 65 Meg Ram. Will not run on Win95 machines. |

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| What kind of internet connection is required? | A cable or DLS connection works best. The system will also work if you have access to Outlook email (not outlook express) or have a POP3 email account. Will also work with a dialup internet connection. |
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