Data-Sync Process Quick-Start

(revisited)

The Locations Module contains a set of automated functions for the purpose of synchronizing two or more PIMS-X Datafiles. This process is called "Data-Sync. In PIMS-Classic, this was called the "CONNECT Module".

For those who used the PIMS-Classic CONNECT Module, you will find this process much simpler and easier to set up.

The separate PIMS-X systems/datafiles communicate with each other over the Internet WAN or local LAN. This is done without "E-Mail Accounts" like PIMS-Classic, but does require the following TCP Ports be open and available:

19813
49159
49160 thru 49169

The "MAIN" Location must have a "Static" IP Address (not served by DHCP and available over the WAN) for Locations to connect to. You can try "Port-Forwarding", but it is not recommended.

HOW IT WORKS:
There are two classes of Locations. The "MAIN", and all the other Locations. (The "MAIN" Location is automatically created for you during the creation of a PIMS-X Datafile). The MAIN is the only server that needs a dedicated IP Address. The MAIN never makes a call to the other Locations, but rather the Locations call the MAIN. This process is called the Data-Sync process. The process runs in the background every some-many minutes, as defined during set-up (usually every 5 minutes or so). The Data-Sync process creates a folder called "DataSync Folder" at the root level of the PIMS-X Server running it.

<u>The MAIN Process:</u>
During every Data-Sync process, the MAIN looks for any records that are designated for "Syncing". The types of records to be sent are designated by the User during set-up. Once a group of records are found, the MAIN Data-Sync process will group them together into a "Record Package" and export that package into a folder called "File Distribution" inside of the "DataSync Folder". From there, a copy of this Record Package is distributed to folders inside the DataSync Folder that are named after the various Locations found in the Locations Module (named by Location Code"). Here they will wait for the next incoming Location call to send to the Location(s).

<u>The Location Process:</u>
During every Data-Sync process, the Location looks for any records that are designated for "Syncing" in the same manner as the MAIN does (however, different rules apply). Once a group of records is found, the Data-

Sync process will group them together into a "Record Package" and export that package into a folder called "File Distribution" inside of the "DataSync Folder". Now, the Location will make a low-level TCP/IP call to

the MAIN IP Address, as designated during set-up. If the MAIN can be contacted, then that Record Package is sent to the MAIN for processing. Any other Record Packages found in the "File Distribution" folder at this time are also sent to the MAIN during this call. If the MAIN can't be contacted, then the records will wait until next time.

The MAIN then sends back it's Record Packages that it was holding for that specific Location. The Location then selectively imports and processes those records. The MAIN will send all unsent Record Packages at this time.

If, during importation/processing, the Location encounters record locks it will send a message to the MAIN instructing it to re-send a given record next time it syncs. This will go on until that record is successfully imported into the Location's Datafile.

SET-UP:
The object is to get your MAIN Datafile all set-up and functional for Locations prior to running Data-Sync. This set-up should include no less than:

1) Entering all of the Locations (as Location records) into the Datafile (Location Module).
2) Setting up any Chart-Of-Accounts in EDC Accounting that are specific to Locations.
3) Setting any bypass Accounting Overrides on the Location records if necessary.
4) Configuring the Data-Sync settings for the MAIN as well as other Locations in the Location Module.
5) In the Locations Module, under the "Data-Sync" menu, select the function called "**Clear All Sync Flags:**". This will clear all of the Data-Sync ready flags on any records that are currently set to "sync". ***THIS IS VERY IMPORTANT TO DO PRIOR TO MOVING THE DATAFILE OVER TO THE LOCATIONS.***

AT THIS TIME, MAKE SURE THE "DATA-SYNC ON" CHECKBOX IS <u>NOT</u> CHECKED ON ANY LOCATION RECORD, INCLUDING THE MAIN…

Once you are satisfied your Datafile is complete, you need to copy it "as-is" over to your various Locations for them to use as their PIMS-X Datafile.

<u>The MAIN:</u>
You need go to "PIMS Preferences" and make sure your "Terminal Specific" Location is set to "MAIN". You also need to make sure your "Server Location Code" (right below) is set to "MAIN" as well.

You now need to set a few parameters on the MAIN Location record's Data-Sync section (Data-Sync Tab). First, click the "DATA-SYNC ON" checkbox. Now enter the "SYNC EVERY" interval. This is in minutes. It can be as low as one minute. This means the process will run in the background every minute. If this is too much for your Server, then bump it up to every five minutes or so. Now check the box called "LISTEN FOR LOCATION CALLS". This makes it OK for Locations to connect and send/receive Record Packages. The only other thing to do is decide what records to send to your Locations. By default, they are all checked. They should stay that way unless you are told otherwise for your specific needs.

The MAIN will always override and replace the same record in a Location Datafile.

Once the MAIN Location record is saved, the Data-Sync process will start. You will know it is running by a Process Monitor window that appears on the Server. While running, you may open-up the Location record and make changes as necessary. This includes stopping the MAIN from Data-Syncing by clicking off the "DATA-SYNC ON" checkbox. All changes are processed in real-time.

The Location:
On the Location record (at the Location Datafile), there are a few more controls than the MAIN has.

You need go to "PIMS Preferences" and make sure your "Terminal Specific" Location is set to your Location Code. You also need to make sure your "Server Location Code" (right below) is set to the same code as well.

Now, go to that Location's Location record and check the checkbox called "DATA-SYNC ON". Now enter the "SYNC EVERY" interval. This is also in minutes. Check the checkbox called "SEND RECORDS TO MAIN" to instruct the Location to send records out. Enter the static IP Address of the MAIN Server into the field called "MAIN IP ADDRESS". This is the address where records will be sent and retrieved from. Enter a "dotted" IP Address, and not a domain name of any kind.

By default, a Location will only receive Invoices that are designated for that specific Location. However, if you wish to receive Invoices from all Locations processed at the MAIN, then click the checkbox called "RECEIVE EVERY LOCATION INVOICE".

Once the Location record is saved, the Data-Sync process will start. There will be a Process Monitor, just like the MAIN Server displayed.

Location Record Processing:
The MAIN sends any specified record that has been modified (by you or any other process) to the Location, where it is always replaced (if not locked). However, the Location is far more selective about which records to send. No important record is ever replaced at the MAIN. Here are some rules:

a. When a Customer record is modified at a Location, only the "Core" Customer data is sent to the MAIN for updating (address change, new/altered Contacts, etc.). The A/R is not altered at the MAIN. The MAIN will handle that itself and send the modified record back to the Location with updated A/R.

b. New Customers that are created at the Location are always sent to the MAIN intact.

c. New Vendors are sent to the MAIN, but modified Vendors are not processed. Vendor modification should always take place at the MAIN.

d. Purchase Orders from the Location are only sent to the MAIN if they are "Processed". Once Processed and sent to the MAIN, the Location can not "Un-Process" them. If they need to be un-processed, this must be done at the MAIN. Once un-processed at the MAIN, they will be sent back to the Location and the Location may modify it at will. Once the MAIN receives a "Processed" Purchase Order, it is "re-Processed" at the MAIN. This will modify the associated

Inventory records (ON ORDER fields) and send those Inventory records back down to the Location(s).

e. Only Posted Receiving Records are sent to the MAIN. Once Posted and sent to the MAIN, the Receiving records can not be un-posted at the Location. Once received at the MAIN, the Receiving Record is "re-Posted". Associated Inventory records are then sent back to the Location(s). If the Receiving Record needs to be un-posted, this must be done at the MAIN. From there, it will be sent back to the Location it came from.

f. RMA records work like Receiving Records. Only Posted go to the MAIN. Un-Posting can only take place at the MAIN.

g. Only the MAIN can send Inventory Transfers. The MAIN will send Inventory Transfers to the Location(s). The Location will then "Receive" the items against that Inventory Transfer. That associated Receiving Record is then sent to the MAIN for final processing.

h. Only "Completed" SROs are sent to the MAIN. Once Completed, and SRO can not be "un-completed". This can only happen at the MAIN.

<u>Security:</u>
At the MAIN Datafile, you can go into each Location record (except the MAIN) and enter an IP Address into the field called "THE IP ADDRESS SEEN BY THE MAIN SERVER". If there is an address entered here, then only that address can send/receive records for that Location. This keeps other Parties from accessing your information. If you put the wrong address here, Locations will not be able to Data-Sync with the MAIN. Often it is the IP Address of the Router that comes through, and not the IP Address of the Location's Server (if served by DHCP). If you are unsure of what that IP Address is, you can use the "Ping/Capture" function found on the Location record entry screen. To use this, boot a single-user version of PIMS-X (v10.0.2.6 or greater) on the MAIN server and on the Location(s) server. Once both are running, click the "Capture IP" button at the MAIN (on a specific Location record, and not the MAIN Location record). Now (you have 20 seconds to do this) tell someone at the Location to click the "Ping MAIN" button. If successful, the Location will send it's IP Address to the MAIN and that IP Address will be placed into the proper field on that screen.

Other Functions:
There are some menu functions in the Location Module under the Data-Sync menu:

Records Ready To Sync:
This function will display a listing of the number of records that are flagged to be sent.

Run Scheduled Sync Now:
When selected, this function will tell the current Data-Sync process to stop waiting and run right now. After running, it will resume it's process delay and wait for the next sync period.

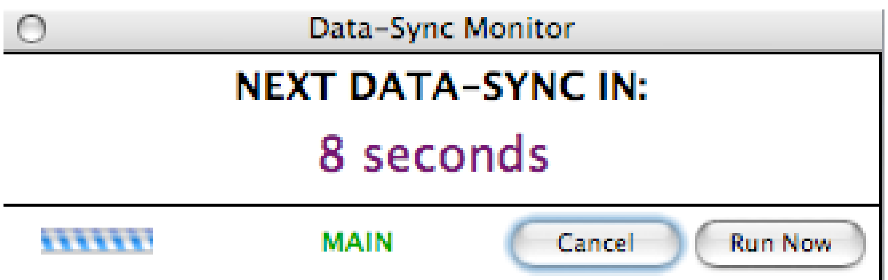
When Will Sync Run Next:
This will display information as to when the next scheduled Data-Sync process will run.

Clear All Sync Flags:
This function will clear all the "Ready To Sync" flags on any records that are designated for syncing.

Show Data-Sync Monitor Window:
If you clicked the closebox on the Data-Sync Monitor Window, then this function will re-display that window.

On various record listings (Inventory, Customers, Orders, etc.) there is a function under the "Functions" menu called "Set Data-Sync Flag…". This will flag/unflag the "READY_TO_SYNC" flags on the selected records.

The Monitor Window:



The Monitor Window shows when the next Data-Sync will take place, and also has a few controls on it. To make this window go away, but leave the Data-Sync process running, simply click the window's closebox.

The CANCEL button will cause the Data-Sync process to stop. This is the same as opening up the Location record and un-checking the "DATA-SYNC ON" checkbox.

RUN NOW has the same affect as selecting the "**Run Scheduled Sync Now:**" menu function.