Hydrology Operations Manual

Hilltop Replication - TxSender – Outgoing Time Series

Background

Relational databases use a facility called Replication to keep different copies of a Database in step with each other. Hilltop offers a similar system so that a data file at a Web Hosting Company or external agency - can be a faithful copy of the file in your office.

The process works by marking the Hilltop file for replication and naming a directory where "transaction records" are written. The transaction records are XML files that contain all the information about any changes you make to the Hilltop file.
Two Windows NT Services work together to move the data from your office to the Web Hosting company.

The transaction sender, TxSend, runs on a machine on your network and sends the transaction records to the Web Host using FTP. It deletes the files once it has sent them successfully.

The transaction system records all changes to the Hilltop file. This means you can edit the file as required and all changes are sent. This also applies to the use of HTSUpdater adding new data to a file.
You can have several Hilltop files marked for replication and they can all put their transactions into the one directory.
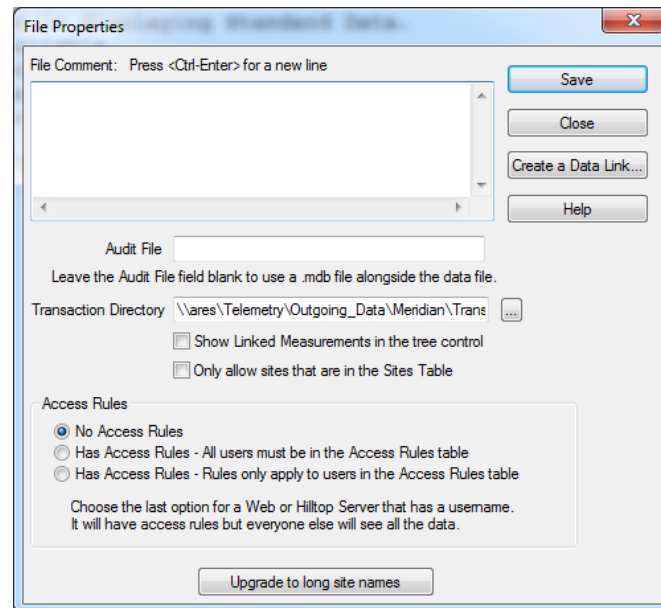
The transaction system also offers hilltop agencies to supply hilltop XML files to replicate datasets in both agencies. While generally obsolete with hilltop server for generalised data supply, this system enables exchange of confidential data.

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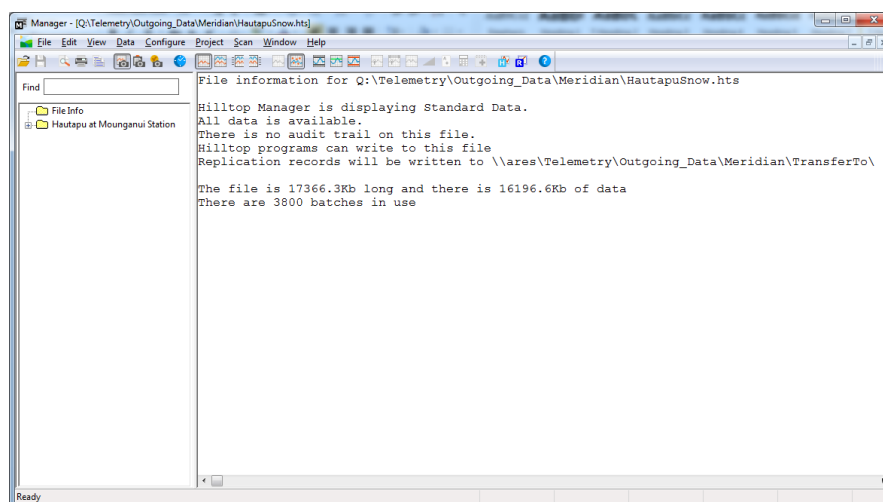### Hilltop Replication - TxSender – Outgoing Time Series

Marking a hilltop file for Replication

Start Hilltop Manager and load a Hilltop file. Use the File Properties menu item and a dialog box appears.

Enter the name of the directory where the transaction records are to be written. This directory must exist (!!) and everyone who is going to modify the data file must have write access to the directory.

Set the transaction directory blank if you want to stop replication of the Hilltop file.

Once the hilltop file is marked for replication; it is clearly marked in the file information screen.

Configure an HTSUpdater if you require continuous updates to this file.

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Configuring Transaction Sender

The Transaction sender (TxSend) is installed on PNT-AP41
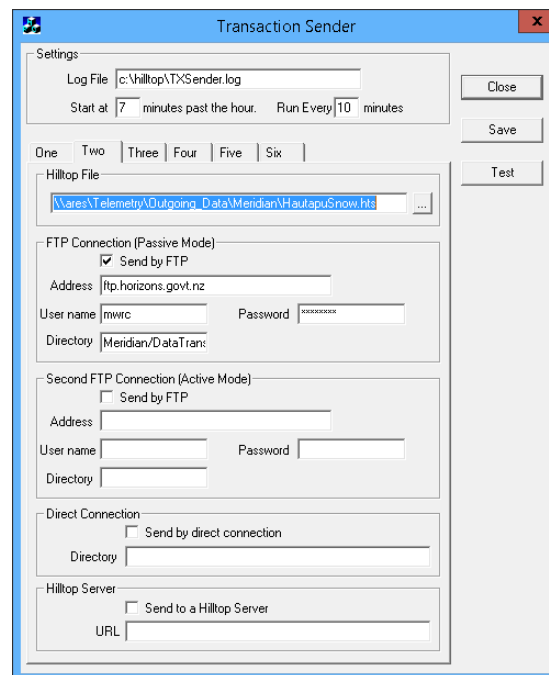(CDUpdates.horizons.govt.nz)

The transaction sender normally runs as a Windows NT Service but you need to configure it so that it knows what to do.
Start the sender from the Start Run menu item in Windows or from a Dos Shell.
Enter the command:

```
TxSend Dialog
```

You can also start TxSend from Windows Explorer by double clicking on it. The program will think it is being started from as a service and after a long pause will discover it is not true and will put up the dialog box. Starting from Windows Explorer is therefore much slower than using Start Run or a Dos Shell

The sender can work with six different Hilltop files. Click the tabs to select the options for each file. The Hilltop File field identifies that data file that you have marked for replication. TxSend opens the file to read the name of the transaction directory. Leave the data file name blank on the second tab if you are only working with one data file.

TxSend can send the replication records by FTP and/or a direct file copy. Choose the file transfer methods and fill in the appropriate fields. The FTP process needs an address, username and password. TxSend can issue a Change Directory command to
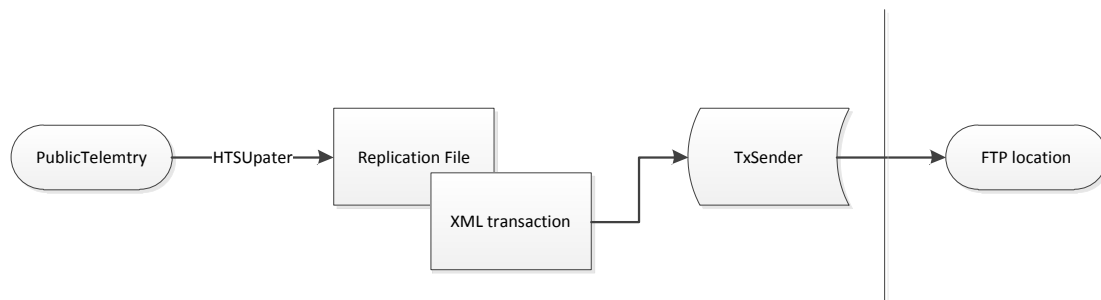
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the FTP server and go to a sub-directory on the FTP site. Enter the directory name, or leave the field blank if you want to write to the login directory on the FTP site. The Direct Connection method just needs the name of a directory on the receiving computer.

Click the Save button to store the settings in the registry and then click the Test button to send the transaction records. Any errors will be shown in a message box on the screen. TxSend uses the Windows Internet library and this does not work with Proxy Servers.
The program needs a direct connection to the FTP site.

The transaction sender is designed to run as a Windows NT Service. It needs a log file that it can write any errors to and a set of times to run at. Enter these values into the dialog box and save them.

Exchange Agreements

Exchange agreements exist between Horizons, Genesis and Meridian.
Data is updated with HTSUpdater on pnt-AP41 (CDUpdates.horizons.govt.nz) contained within the following Batch file:

C:\hilltop\Batchfiles\External-TXSender.Bat

Genesis:
Hilltop file - \\ARES\Telemetry\Outgoing_Data\Genesis\ToGenie.hts
Transaction directory - \\ARES\Telemetry\Outgoing_Data\Genesis\TransferTo

Meridian:
Hilltop file - \\ARES\Telemetry\Outgoing_Data\Meridian\HautapuSnow.hts
Transaction directory - \\ARES\Telemetry\Outgoing_Data\Meridian\TransferTo

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Installing the Service

Start a Dos Shell and change directory to where TxSend resides.
Enter the command:

```
TxSend Install
```

This installs the service but does not start it. Start the Windows Control Panel, and then start the Services Manager. The list will show the Hilltop Transaction Sender and you should set the properties of the service.
In particular, you will need to let the service use a given username and password if the service is going to need to see the transaction files across the network.

Now start the service from within the Services Manager. There will be a short pause while the service loads and does some start-up checks. The service will start if all is well, otherwise you will see a dialog box with a long message in it. The last sentence refers to an error code.
The error codes are:

2 You didn't give a name for the log file.
3 The Start Minutes values is <0 or >=60
4 The Repeat minutes value is <=0
5 The service couldn't write to the log file. This will probably be permissions problem.
6 You didn't give a Transaction Directory.
7 The service couldn't create a test file in the Transaction Directory. The error message for this test will be in the log file.

Error Log

A fill Log file exists on pnt-AP41 (CDUpdates.horizons.govt.nz), transactions and errors are recorded within the logfile.
C:\hilltop\TXSender.log

Installing New Versions and Removing a Service
New versions of the software can be installed by copying the replacement program over the top of the existing executable. Start the Services Manager from inside the Windows Control Panel and stop the service. Copy the new version onto your computer and start the service again.

You can remove the service by first stopping the service from within the Services Manager and then starting a Dos Shell. Start the program with the word "Remove" on the command line.
For example, to remove the TxSend:

```
TxSend Remove
```