Hyper Historian
Hyper to Hyper

APPLICATION NOTE

October 2015

Description: Guide to using the Hyper to Hyper feature to synchronize data logged on two Hyper Historian loggers.
General Requirement: Knowledge of Hyper Historian configuration, TrendWorX64 View configuration, and two Hyper Historian instances running on separate servers.

Introduction

The new "Hyper to Hyper" feature in 10.90 allows Hyper Historian to merge data from another Hyper Historian (or any Classic or UA OPC-HDA server). This merge can be done on a regular basis from triggers or manually executed.

When merging data from a second Hyper Historian (not 3rd party historians) it can also automatically detect changes in the source data and propagate those to the central Hyper Historian automatically. This can be useful if you expect your data to be edited after the fact.

This application note will walk you through creating a tag on one Hyper Historian server that is getting its data from another Hyper Historian server, demonstrating the Hyper to Hyper feature. It will also walk you through creating snapshot loggers and doing a manual synchronization.

> **NOTE:** For more information on Hyper Historian configuration in general, see the help files or other application notes starting with "Hyper Historian", in particular, the application note entitled, "Hyper Historian - Quick Start".

Setup

This example assumes you have two Hyper Historian instances running on two separate machines. We will refer to one as the Source Logger and one as the Target Logger. This example will assume the Source Logger is up and running with the sample configuration database, and will walk you through merging the "Sine Med" tag into the Target Logger.

> **NOTE:** Before following these steps it is highly recommended to make sure that you are successfully logging data on the Source Logger, and that you can view that data from a TrendWorX64 Viewer running on the Target Logger. If the Source Logger is not logging data or if that data cannot be replayed on the Target Logger then these steps will fail.

Configuring a Synchronized Tag

1. On the Target Logger, in the Hyper Historian Workbench provider, right click on **Loggers & Groups → Data Logger → Sample Logging Group** and choose **Add Merge Group**. (In WB SL, right click on **Loggers & Groups -> Data Logger -> Sample Logging Group**)
2. Name the new group, "MergeGroup30s". For the **Trigger Type**, choose "Time Trigger". Set **Recurrence type** to Time interval. Set **Recur every** to 30 seconds. Hit **Apply** when done.
3. Right-click on **Data Collections** and choose **Add Folder**. Name the folder "Merged".
4. Right-click on the **Merged** folder and choose **Add Merged Tag**.
5. Name the new tag "Sine". For the **Source Signal**, browse for your **Various Signals → Sine Med** tag on the Source Logger. The tag should look something like this:

\\SourceLogger\ua:HyperHistorian\\Configuration/Various Signals/Sine

6. For **Merge Group**, pick **Sample Logging Group \ MergeGroup30s**. Hit **Apply** when done.
7. If Hyper Historian was not already running, start it.
8. In a TrendWorX64 Viewer, add both the **Various Signals → Sine Med** tag from the Source Logger and the **Merged → Sine** tag from the Target Logger. You will see they both have the same value, and the "merged" copy on the Target Logger will refresh its data every 30 seconds.

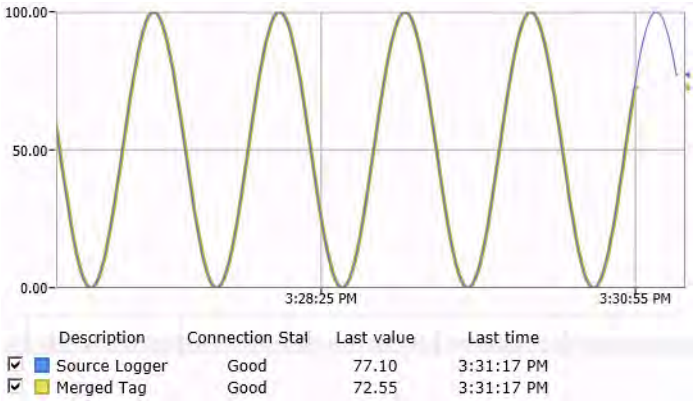

Figure 1 - Source tag and merged tag

Snapshot Synchronization

You may note that if you manually edit samples in your Source Logger that those samples do not appear in the merged tag on the Target Logger. We can fix this by implementing the Snapshot Synchronization feature.

1. On the Source Logger, edit your **Sample Logging Group** and from the **Snapshot Logger** dropdown, pick **Snapshot Logger**. This enables snapshot logging on the source side, which is necessary for snapshot synchronization. The

Snapshot Logger should be included in the sample Hyper Historian configuration. Click **Apply** when done.

2. On the Target Logger, edit your **Merged → Sine** tag and check the box for **Use Snapshot Synchronization**. Click **Apply** when done.
3. In your TrendWorX64 Viewer where you have both your source and merged tag, freeze the viewer, and edit a sample of the source tag, then unfreeze the viewer. At first, you should see a spike in your source tag that does not show in your merged tag, but if you watch the viewer for at least 30 seconds you will see the spike get copied into the merged tag as well.

Manual Synchronization

In some cases, you may not want to or be able to use the snapshot synchronization (such as when synchronizing from a 3rd party historian), or perhaps you want to backfill a set of data that was logged before you created your merged tag. This section will walk you through doing a manual synchronization.

1. On the Target Logger, go to **System Administration → Synchronization Tasks Management**.
2. Click the  button in the Storage Management section.
3. Pick the start and end time of the interval you'd like to synchronize. If you'd like to run this task immediately, keep **Now** checked in the **Execution Time** section, otherwise uncheck Now and set a designated time in the future for this action to occur. (You may want to delay a manual synchronization if you are doing a synchronization for a large period of data and would like to wait for a period of time when the system is not at peak usage.) Click **OK** when done.
4. You should now see your manual synchronization job in the list. Click **Apply Changes**. If you scheduled your task to happen immediately, you will see it begin to process. Once it is finished you should be able to go back to your TrendWorX64 Viewer and see all of the changes in the given time range that were not synchronized previously.