AssetWorX – Configure Hyper Historian Tags from AssetWorX

Application Note November 2019

Description: How to configure Hyper Historian tags from within the AssetWorX Workbench provider.

Requirements:

- Basic understanding of AssetWorX, Hyper Historian, GraphWorX64, and Workbench.
- AssetWorX and Hyper Historian configurations must be in a single configuration database.

Introduction

Version 10.96 moves the ICONICS Suite towards a more unified configuration environment by allowing you to configure Hyper Historian tags directly from within AssetWorX. AssetWorX is taking steps to become your central configuration environment for ICONICS Suite products.

In order to provide this central configuration, the AssetWorX and Hyper Historian databases must reside in a single configuration database. However, the AssetWorX and Hyper Historian runtime engines may run on separate nodes. (See the section entitled, *Running AssetWorX and Hyper Historian*.)

Hyper Historian tags may be configured directly on an asset, or in an equipment class.

Users can still create tags in Hyper Historian independently from AssetWorX, if they have tags they want to log that do not relate to the asset structure.

General Use Overview

Users can go to the **Historical Data** tab on an asset property and configure a Hyper Historian tag, calculated tag, calculated simple event, or calculation condition. The asset property's configured real time data will be used as the data source. If you choose a Dataset as the source type of the Hyper Historian tag, the asset property's dataset will be used (configured on the **Dataset** tab).

All Hyper Historian tag properties can be configured directly from the asset dialogs.

> **Note**: In previous versions, the **Historical Data** tab had a **Historical data enabled** checkbox. That box unchecked is the equivalent to the new **Source type** of **Disabled** and enabled is equivalent to the new **Source type** of **Historical data tag**.

In runtime, these tags are browsable under the **Historical Data** > **Hyper Historian** > **Configuration** tree in a new **!Assets** branch, as well as under the **Assets** tree.

In Workbench, these historical tags will not appear in the Hyper Historian provider, only under Assets.

Hyper Historian settings, such as logging groups, collector groups, archiving, etc. must still be configured within Hyper Historian.

Logging still only occurs when the Hyper Historian service is running (launched either from the Hyper Historian Workbench provider, or from Windows Services). Also, the Hyper Historian service must be running for historical data replay to occur, even if the user is looking at a tag in the Assets address space (ac:).

Using Extended Historical Runtime Properties from within the Assets Tree

Each Hyper Historian tags exposes extended properties when expanded, such as *Data Replay*, *Description*, and *Numeric id*. These extended properties are also available from within the **Assets** tree, by expanding the **.HistoryPoint** attribute under the respective asset property.

It is also possible to use the **.HistoryPoint** attribute directly to access data. While for normal use it is still recommended to access the historical data through the asset property itself (e.g. `ac:MyTag`), the **.HistoryPoint** (as in `ac:MyTag.HistoryPoint`) can be used in advanced cases, for example to read the real time data of the Hyper Historian tag.

These two tags are functionally equivalent tags:

```
hh:\Configuration\~AC:=MyTag
ac:MyTag.HistoryPoint
```

Configure Historian Tag from AssetWorX

This section is an example of how to configure an AssetWorX property to be logged with Hyper Historian.

1. Open **Workbench** and navigate to **Assets**.
2. Find an existing equipment property. For example, if you are using the default AssetWorX configuration you can navigate to **Equipment** > **Company** > **Foxboro Bakery** > **North** > **Baking line** > **Ingredients mixing tank** > **Ingredient charger** > **Heating control** > **CurrentTemperature**.
3. Go to that equipment property's **Historical Data** tab.
4. For **Source**, choose **Hyper Historian Tag**.
5. If desired, define additional settings for your Hyper Historian tag, such as changing the collector group.

6. Click **Apply**.
7. If the Hyper Historian Logger was not already running, go to the **Historical Data** > **Hyper Historian** branch of Workbench and use the stoplight to start it, or start it via Windows Services.

Hyper Historian will now start to log this AssetWorX property's real time data source according to the settings we configured on the **Historical Data** tab.

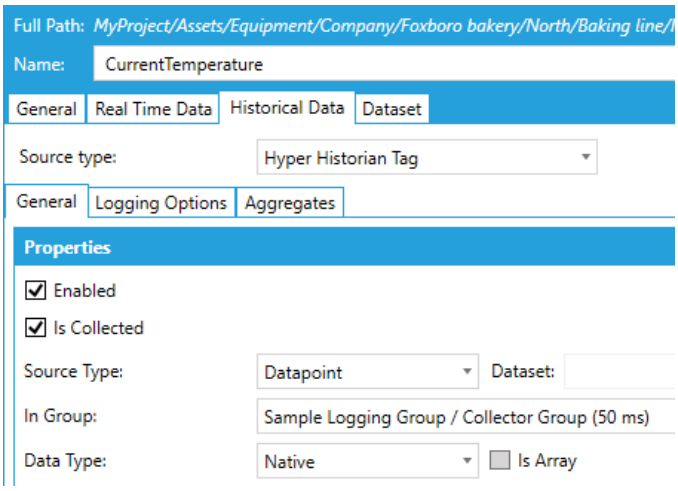

Figure 1 – AssetWorX Historical data configuration

Reading Historical Data from AssetWorX Historical Tags

In this section, we will connect to Hyper Historian and read the data we defined in previous session.

1. Open **GraphWorX64** and insert a **TrendWorX64 Viewer** into your display.
2. Add a new pen and browse for **Historical data** > **Hyper Historian** > **Configuration** > **!Assets.**
3. Under the **!Assets** folder, select the asset property you configured in the previous section and click **OK**.
4. Go into runtime to see your historical data.

You can also browse for your tag under the Assets tree.

Extension Management

You can find an **Installed Extensions** page for both AssetWorX and Hyper Historian. This page can be used to enable or disable the connection between Hyper Historian and AssetWorX. If Hyper Historian and AssetWorX are running on separate nodes, this is where you will need to configure the name of the remote server.

AssetWorX's Installed Extensions page can be found under **Assets** > **Product Configuration**.

Hyper Historian's **Installed Extensions** page can be found under **Historical Data** > **Hyper Historian** > **System Administration**.

You may need to manually enable these extensions if you are upgrading a configuration database from a previous version.

You may want to disable these extensions to save resources if you are using a system that has only Hyper Historian or only AssetWorX, or if you simply do not wish to use this integration.

Upgrading from Previous Versions

You may need to take a couple extra steps if you are upgrading from version 10.95 (or earlier) to 10.96 (or later) to take advantage of this new functionality.

If your project did not have AssetWorX and Hyper Historian in the same configuration database, export one of the configurations, configure AssetWorX and Hyper Historian to share a database, additionally install also the Asset AnalytiX application into the same database and then the import the configuration. This can be done before or after the upgrade as long as the upgrade is not done in the middle of the process (in other words, do not export, upgrade, then import – either export, import, then upgrade or upgrade, export, then import).

If your project did have AssetWorX and Hyper Historian in the same configuration database, simply upgrade these two and install the additional Asset AnalytiX configuration into the same database.

Once your AssetWorX and Hyper Historian configurations are in the same database together with the Asset AnalytiX application, and you have upgraded to the new version, go to the **Installed Extensions** page for both AssetWorX and Hyper Historian and verify that the extension is visible and enabled in both places. (See the *Extension Management* section.)

Running AssetWorX and Hyper Historian on Separate Nodes

When running AssetWorX and Hyper Historian on separate nodes, the node names must be specified in AssetWorX's

Installed Extensions page. (See the *Extension Management* section.)

Go to AssetWorX's **Installed Extensions** page, find the **Hyper Historian – AssetWorX Extension** row, enter the name of the AssetWorX server under the AssetWorX Server column and the name of the Hyper Historian server under the Extension Server column.

Configuration Cache

Even when running on separate nodes, the configuration databases for AssetWorX and Hyper Historian must be the same database. This means that at least one of the configuration databases must be remote. In this case, you may want to configure the configuration cache for the remote database. The configuration cache keeps a local copy of the configuration database in case the original database becomes inaccessible.

The configuration cache for Hyper Historian is configured under **Historical Data** > **Hyper Historian** > **Node Setup and Redundancy** > **Local Logging Server** > **Advanced Configuration Cache**. The configuration cache for AssetWorX is configured by right-clicking on your project, selecting **Configure Application(s) Settings**, then checking the **Local Cache** box for the **Assets** application.

Bulk Asset Configurator

For users who use the Bulk Asset Configurator, they now have the option to configure their equipment classes to have Hyper Historian tags. In this case, they would no longer need to use the ClassHistoryDefinitions page of the Bulk Asset Configurator's input sheet. The Hyper Historian configuration would be handled through the equipment class.