



Hyper Historian Remote Collectors



APPLICATION NOTE

September 2013

Description: Guide to setting up a remote collector.

OS Requirement: Windows 8 x64 (Professional or Enterprise Edition), Windows 7 x64 (Professional or Enterprise Edition), Windows Server 2012 x64, Windows Server 2008 R2 x64, Windows Vista x64 SP2 (Business, Ultimate, or Enterprise Edition), Windows Server 2008 x64

General Requirement: Installation of Hyper Historian on the Logging server and installation of Hyper Historian or standalone Collector on each Collector station; Basic understanding of how to create a Hyper Historian tag.

Introduction:

Hyper Historian is separated into two parts: data collection and data logging. While you can only have one logging server for non-redundant setup, multiple collectors can sample data for you.

Using a remote collector could potentially cut down on your network traffic. Consider a scenario where you are collecting data every second and using a calculation period of one minute to find the maximum value for the minute. If your OPC server is remote, then, it will have to forward a sample to the local collector every second. However, if you put the collector on the remote machine where the OPC server resides, it would only need to send the calculated value to the logger once a minute. With this setup, the amount of network traffic decreases to one value per minute as opposed to one value per second.

You can take advantage of this type of setup if you have Hyper Historian Enterprise Edition licensing. This document walks you through the steps to setting up a remote collector.

General Setup:

In order for a remote collector to work properly, the time on all computers in question must be synchronized. This means the computer running the collector should have the same time as the computer that is running the logger.

There are a couple of ways to synchronize the time on your machines. If the machines are running in a domain, you can set the domain controller as the time keeper and synchronize the machines in the domain to that time. Alternatively, you can synchronize the time using the internet by pointing the machine to a time server. You can find more information on how to synchronize the time on different machines in the application note called *GENESIS64 – Synchronizing Machine Time*.

To make sure the computers can communicate with each other, you can temporarily turn off the firewall or create an exception on

your firewall for the ports that the collector is using. You may also want to turn off UAC, as it could also hinder application communication.

With these general settings applied, you should be ready to start configuring your remote collector.

What You Need to Install:

For **Hyper Historian Logger**, a complete Hyper Historian installation must be installed on the machine. There can be only 'local' Loggers.

For a remote **Hyper Historian Collector**, you can use a standalone Hyper Historian Collector installation, which is available on the Hyper Historian DVD. You can also use a remote collector on a complete Hyper Historian installation.

Local Collector:

It is quite simple to setup a local collector configuration. Let's see how the Local Collector is setup.

1. Open Hyper Historian in the Workbench and expand the local configuration and then Node Setup and Redundancy.
2. Right-click on Local Collector and select Edit on New Tab. This opens the Local Collector configuration in a new tab. The configuration should look like the example in Figure 1.

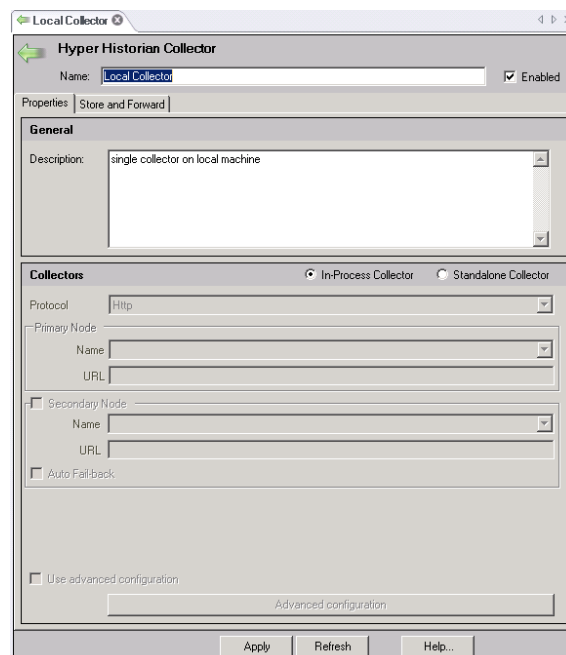


Figure 1 - Hyper Historian Local Collector



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3. In the Collectors section, make sure the **Local** (In-Process Collector) option in the Collectors section is selected. This will configure a Local collector and no additional configuration is required.

Creating a Remote Collector:

1. In the Workbench, expand your active configuration so you can see Node Setup and Redundancy.
2. Right-click Node Setup and Redundancy and select  **Collector**
3. A new collector configuration opens in a new tab with the default local collector endpoint information.

Figure 2 - Remote Logger Configuration

4. Give the collector a name. (e.g., “*MachineName* Collector”, where the *MachineName* is the name where the remote logger is located).
5. Select the Remote (Standalone Collector) option in the Collectors section.
6. Use the **Protocol** drop-down list to select either HTTP or TCP.
7. Enter a Name for the **Primary Node** or select one from the drop-down list. The URL field below is pre-filled from your primary node selection.

8. If Backup Collector is required then click the checkbox next to **Secondary Node**. Enter or select the name of Backup/Secondary Node.
9. You may also click the checkbox next to **Use advanced configuration** to allow further configuration. Once the box is checked, you can click on the Advanced configuration button at the bottom of the window. This opens the Advanced Redundancy Configuration window, which allows you to enter both the Primary Node URL and Secondary Node URL directly (rather than from the selection of the Primary/Secondary Nodes in the main properties window). Note that changes to this configuration may require equivalent changes in the nodes configuration. Click **OK** to proceed.

Using the Remote Collector:

To use the remote collector, you will need to create a collector group that uses it. Once this is done, you can configure the rest like any other collector group.

1. Expand your active Hyper Historian configuration → Groups → Logging Group.

NOTE: This document uses a preconfigured logging group called “Logging Group” in the sample Hyper Historian configuration. You can choose whatever logging group you want to use.

2. Right-click Logging Group and select + Collector Group.
3. The new Collector Group configuration opens in a new tab.
4. Give the Collector Group a name and in the Collector section, select the remote collector you just created. If you don’t see the collector in the drop down list, click the Refresh Collectors button and try looking in the drop-down list again.
5. Configure the Collection Parameters and give an optional description if you wish.

NOTE: If you are not familiar with the Collection Parameters settings, please refer to the help documentation or the *Hyper Historian – Quick Start* application note.

6. Click Apply to save your settings when you are done. Your configuration should look similar to Figure 3.



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The screenshot shows the 'Hyper Historian Collector Group' configuration window. It has a 'Name' field set to 'Remote Collector Group' and an empty 'Display Name' field. Under the 'Collector' section, 'Local Collector' is selected in a dropdown menu, with a 'Refresh Collectors' button next to it. There are two checkboxes: 'Override parent logging group timestamp settings' (unchecked) and 'Collector overwrites SourceTimestamp of data with its actual UTC time' (unchecked). The 'Collection Parameters' section includes four spinners for 'Data collection rate' (Hours: 0, Minutes: 0, Seconds: 1, Milliseconds: 0), a 'Force refresh rate' section with four spinners (all at 0), and a 'Calculation period' section with four spinners (Hours: 0, Minutes: 0, Seconds: 10, Milliseconds: 0). The 'Info' section has a 'Description' label and a large text area. At the bottom are 'Apply', 'Refresh', and 'Help...' buttons.

Figure 3 - Collector Group Configuration

- Now that you have a collector group configured to use the remote collector, you can add tags to it like you would for any other collector groups.
- You can also view remotely-collected data the same way you would for locally-collected data in the Trend Viewer.

The remote collectors load the configuration that is set on the logger machine. The configuration information for the tags that are added to a Collector Group are automatically sent to the appropriate collectors by the Hyper Historian when it starts up or when there is a change in the configuration.

Services to Run:

Once you are done with your configuration, you can start the Hyper Historian service by clicking the traffic light in the Home ribbon to turn it green. If it is already green, refresh the configuration database so that the new settings apply. Also, start the Hyper Historian service on the remote collector to start data collection.

If you look in the services manager, you will notice there are a few Hyper Historian services.

The screenshot shows the 'Services (Local)' console window. It displays a list of services with columns for Name, Description, Status, Startup Type, and Log On As. The 'ICONICS Hyper Historian Collector' service is highlighted in blue. Below the table, there is a description for the selected service: 'Collects real-time data and makes them available for logging.'

Name	Description	Status	Startup Type	Log On As
ICONICS Hyper Historian Collector	Collects real-time data and makes them available for logging.	Stopped	Manual	Local Service
Function Discovery Provider Host	The FDDP...	Stopped	Manual	Local Service
Function Discovery Resource Publication	Provides...	Stopped	Manual	Local Service
Group Policy Client	The servic...	Running	Automatic	Local System
Health Key and Certificate Management	Provides X...	Running	Manual	Local System
Human Interface Device Access	Enables ge...	Running	Manual	Local System
ICONICS AlarmWork64 Logger	Logs alarm...	Running	Manual	Local System
ICONICS AlarmWork64 Server	Provides al...	Running	Automatic	Local System
ICONICS Data Manager	Provides fu...	Running	Automatic	Local System
ICONICS PDDWork	Provides fu...	Running	Manual	Local System
ICONICS FrameWork64	Provides m...	Running	Automatic	Local System
ICONICS GenBroker	Provides c...	Running	Automatic	Local System
ICONICS GenEvent Server	Provides s...	Running	Manual	Local System
ICONICS Global Alarming	Provides gl...	Running	Automatic	Local System
ICONICS Hyper Historian Collector	Collects re...	Stopped	Automatic	Local System
ICONICS Hyper Historian Core	Logs data...	Running	Automatic	Local System
ICONICS HyperHistorian OPC-HDA Server	Provides O...	Running	Automatic	Local System
ICONICS License	Provides li...	Running	Automatic	Local System

Figure 4 - Hyper Historian Services

When you click the traffic light to start the Hyper Historian service, it actually starts two services: the ICONICS Hyper Historian Collector and the ICONICS HyperHistorian Core.

Generally speaking, if you are using remote collectors, you do not need both services running. You can simply run just the ICONICS Hyper Historian Collector service on the remote collector machines. If on the logger machine there are no local collectors, you can simply run the ICONICS HyperHistorian Core service on that machine to log the data.

NOTE: If you start the Hyper Historian Collector Service without starting the Hyper Historian Logger, no license is required.