

**Hach WIMS Indirect Server-Side Interface to GE Proficy
Historian**

Q12447 Documentation



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1 - Documentation : Introduction

1.1 Interface Introduction

The **Hach WIMS Server-Side Interface to GE Proficy Historian** imports data from a **disconnected** Proficy Historian into Hach WIMS. If the Interface is able to communicate directly with the Historian, use interface Q11924.

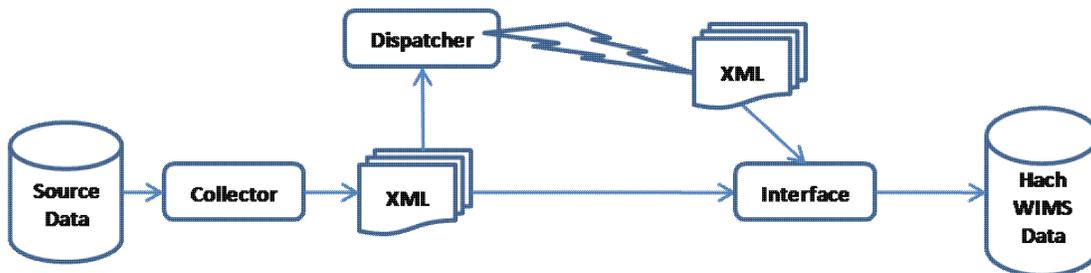
The Interface uses a Collector (Q12450(See Section 5.12)) that resides on the same machine as the Historian (or a machine that has access to the Historian). The Collector exports data from the Historian into OPSDATAXML files that will be read by the Interface. The Collector generates one of these files every hour and contains 60 data point for each tag that is being exported.

[Reference ID: 12458]

1.2 Overview of Indirect Interface Concepts

The main components that collaborate on getting **source data** from SCADA or LIMS systems into the **Hach WIMS database** are the: **Collector**, **Dispatcher**, and **Interface**.

The reason there are these components is to provide flexibility, to be more robust, and to overcome disconnected system conditions.



1. Source Data

The source data is typically a database of SCADA or LIMS type data stored by some automated or manual system

2. Collector

The Collector is responsible for polling source data periodically and creating XML files in a specific format (i.e., OPSDATAXML file format)

3. Dispatcher(See Section)

The Dispatcher is optional and is used for dispatching XML data files from source computer systems to the Hach WIMS computer when these two are not the same network. The Dispatcher transfers XML data files to the Hach WIMS computer system via File Transfer Protocol (FTP). If the source data is on the same computer as the Hach WIMS database, then this component is not needed.

4. Interface(See Section)

The Interface reads in XML files created by the Collector, summarizes the data based on variable setup in **Hach WIMS Client**, and imports the data to the **Hach WIMS database**. The Interface must be able to connect to the **Hach WIMS database**.

5. Hach WIMS Database

End point for data storage. The Database needs to know how the interface is defined, allows you to uniquely name the interface, and provides place holders, called "variables", that hold the data imported from the interface.

6. Hach WIMS Client

The Hach WIMS Client is the part of the system that allows you to read data and generate reports. Hach WIMS Client reads data from Hach WIMS Database.

[Reference ID: 12559]

1.3 Software Requirements

The Interface and its components are supported and can be installed **only** on one of the following Microsoft Windows versions :

- Microsoft Windows 2000 Service Pack 4
- Microsoft Windows XP 32-bit Service Pack 2
- Microsoft Windows XP 32-bit Service Pack 3
- Microsoft Windows Vista 32-bit
- Microsoft Windows Vista 64-bit
- Microsoft Windows Vista 32-bit Service Pack 1
- Microsoft Windows Vista 64-bit Service Pack 1
- Microsoft Windows Vista 32-bit Service Pack 2
- Microsoft Windows Vista 64-bit Service Pack 2
- Microsoft Windows 7 32-bit

- Microsoft Windows 7 64-bit
- Microsoft Windows 2003 Server 32-bit Service Pack 1
- Microsoft Windows 2003 R2 Server 32-bit Service Pack 2
- Microsoft Windows 2003 Server 64-bit Service Pack 1
- Microsoft Windows 2003 R2 Server 64-bit Service Pack 2
- Microsoft Windows 2008 32-bit
- Microsoft Windows 2008 64-bit
- Microsoft Windows 2008 32-bit Service Pack 1
- Microsoft Windows 2008 64-bit Service Pack 1
- Microsoft Windows 2008 32-bit Service Pack 2
- Microsoft Windows 2008 64-bit Service Pack 2
- Microsoft Windows 2008 R2 64-bit

[Reference ID: 12142]

1.4 Source versions tested

GE Proficy Historian 3.1.0.1760

[Reference ID: 12459]

2 - Documentation : How To

2.1 _ Step-by-Step Instructions on How to Configure Interface

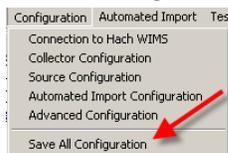
You will need to follow these steps in order to configure your interface :

1. You must have **Hach WIMS Database Management System** installed and running. This can be running from anywhere on your network, but can also be running on the same computer as your interface.
2. You must have **Hach WIMS Client** installed. Make sure you can log into Hach WIMS Database Server using Hach WIMS Client.
3. Run your interface in Interactive mode by clicking on its entry in your windows Start Menu.
4. Configure a connection to your Hach WIMS Server. Use **Configuration - Connection to Hach WIMS**(See Section 3.11) to do this.
5. Make sure you are properly licensed to run this interface. In Main Menu, select **Support -> Am I licensed for this Interface.**



If you pass this test, continue to step 6. If not, contact Hach Company Sales at 800-677-0067.

6. Upload interface definition file to Hach WIMS Server. Use **Utilities - Upload definition file to Hach WIMS**(See Section 3.18) to do this.
7. You will need to assign a collector record to your interface. First the record must be created. You will need to configure **Hach WIMS Client for a server side interface**(See Section 2.4) .
8. Now you are ready to assign the collector record created in *the previous step* to your interface. Use **Configuration - Collector Configuration**(See Section 3.10) to do this.
9. The Configuration - Collector Configuration will provide an opportunity to configure the Collector component. Click on **Collector Configuration Settings** button and follow the instructions in Collector - Common Collector Configuration(See Section 5.3) .
10. You need to link at least one Hach WIMS variable to the chosen collector record.
11. Configure the source so that interface can read from the source system.
Locate the '**Configuration -> Source Configuration**' article in the '**Topics specific for operation of Interface**' chapter to gain instructions on how to do it.
12. Save all configuration Settings by clicking on **Configuration -> Save All Configuration.**



13. You are now ready to test the interface. Use **Test - Test Import All**(See Section 3.17) to do this

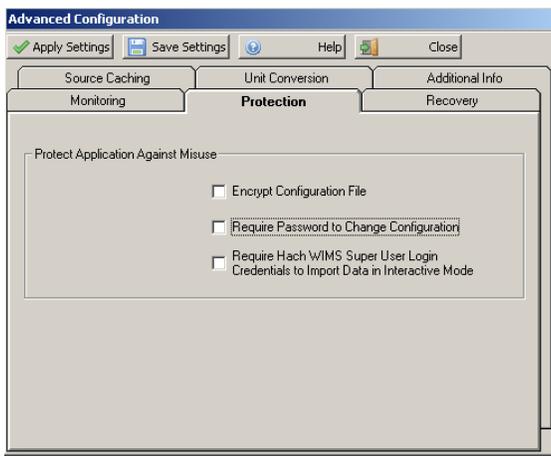
Furthermore, You may want to configure **Automated Import.** Use **Configuration - Automated Import Configuration**(See Section 3.9) to do this.

[Reference ID: 12563]

2.2 Change Configuration Protection Password

Requiring a password for configuration changes will prevent unauthorized or accidental tampering with your configuration from within the interactive mode.

From the interface, select **Configuration** and **Advanced Configuration**. Click on the **Protection** tab.



Click on the box next to **Require Password to Change Configuration** and **Save Settings** button.

Use this screen to set a new configuration protection password.



NOTE: The default password is '12345'. If you configure the interface to use a password and later remove the password check, it will reset to '12345' again.

[Reference ID: 12055]

2.3 Configuration is Password Protected

The configuration is password protected if you changed it in **Change Configuration Protection Password**(See Section 2.2) . You must enter the correct password in order to save any changes to the configuration of this interface.



See Advanced Configuration(See Section 3.4) if you want to disable the password protection.

NOTE:

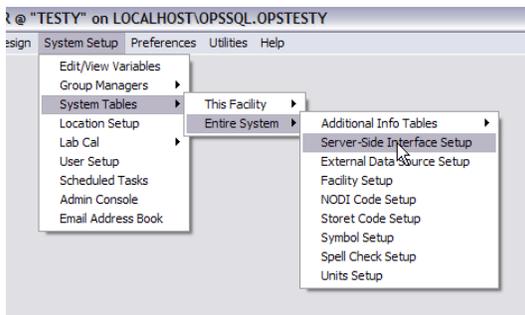
If your configuration is protected with a password, you must know the password before you can disable the password check.

[Reference ID: 12056]

2.4 Configure the Hach WIMS Client for a Server-Side Interface (SCADA2OPSSQL)

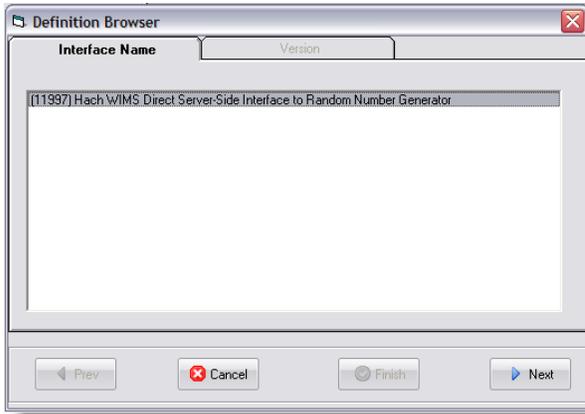
In order to use a **Hach WIMS Server-Side Interface**, you must do the following:

1. Start your **Hach WIMS Client** and navigate to the **System Setup -> System Tables -> Entire System -> Server-Side Interface Setup** menu selection:



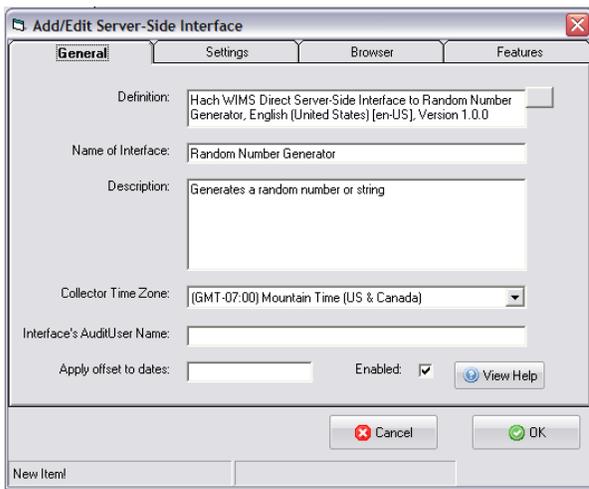
2. If the "Server-Side Interface Setup" screen shows no interfaces, or the one you want to configure is not shown, you have to:
 - ◆ Is the interface definition file uploaded? Click the **New** button to determine if the definition file is uploaded, and see if it appears in the list of interfaces. If it is there, continue to step 3.

- ◆ If the definition file is not uploaded, click the **New Definition** button and navigate to the g2_server_lu file located where the interface is installed. (Alternatively, you can select **Utilities - Upload Definition File to Hach WIMS**(See Section 3.18))
- 3. With the definition uploaded (or present), click the **New** button and create an instance of the server side interface. You can have multiple interface sources for the same definition.



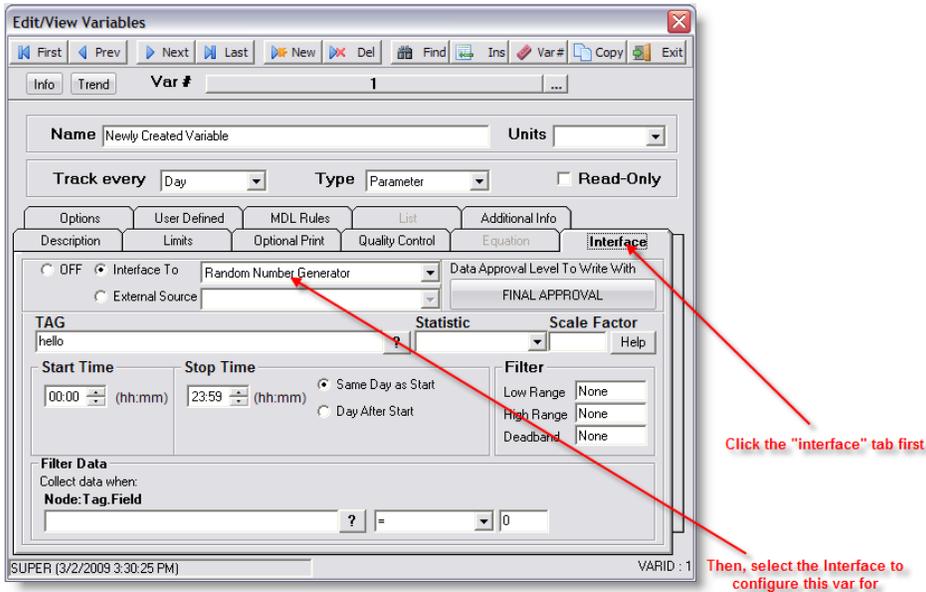
In this example, we are using the Random Number Generator interface. Select the name of your interface, click **Next**, and select the version.

- 4. Configure the interface:



Make note of the "Name of Interface" field - this is how your interface will be identified. In this case - it is "Random Number Generator". Fill in a "Description" and select the "Collector Time Zone", in this case, it is set to Mountain Time (US & Canada). Click **OK** to create the interface record.

- 5. Configure Browser - Click on the **Browser** tab and enter the requested information to allow the **Hach WIMS Client** the ability to browse tags from the source system. In some cases, you will need to install an OLE DB driver, on the Hach WIMS Client computer, that will allow communications to the source system. If it is impossible to configure this option, or you wish to do this later - uncheck the **Enable** button on the **Browser** tab.
- 6. Go to **System Setup -> Edit/View Variables**.
- 7. Go to the variable you wish to configure for storing interface data:



Click the **Interface** tab on the variable you are configuring, then click the **Interface To** radio button and select the interface needed for this variable. The area below will fill up with the settings needed to finish configuring this variable.

8. For detailed instructions on configuration of variables, look for the '**Supported Variable Configurations For Interface ...**' article in the '**Topics specific to the operation of this Interface**' chapter.

[Reference ID: 12041]

2.5 Hach WIMS Super User Credentials

To enable this feature, select **Configuration -> Advanced Configuration**(See Section 3.4) . Then check the "**Require Hach WIMS Super User Login Credentials to Import Data In Interactive Mode**" setting.

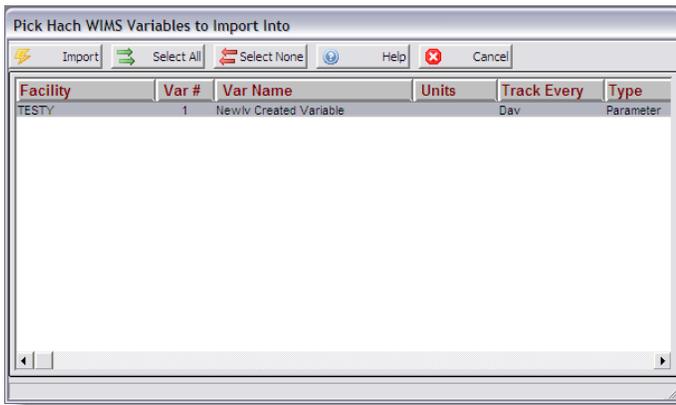
You must provide the correct user name and password in order to import data in interactive mode.

Contact your Hach WIMS Administrator for help if you do not know the username and/or password.

[Reference ID: 12057]

2.6 Pick Hach WIMS Variables to Import Into

Only variables assigned to this interface will be listed. Select the variables to import data into from the source.



HINT: You can hold the CTRL or CTRL/SHIFT buttons down when clicking in order to select multiple entries

Buttons:

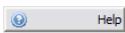
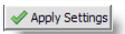
-  Import | Import data for the selected variables.
-  Select All | Select all variables in the list.
-  Select None | Select no variables - deselects all variables from the list.

All other buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12059]

2.7 Using Common Buttons

Common Hach WIMS Interface Buttons:

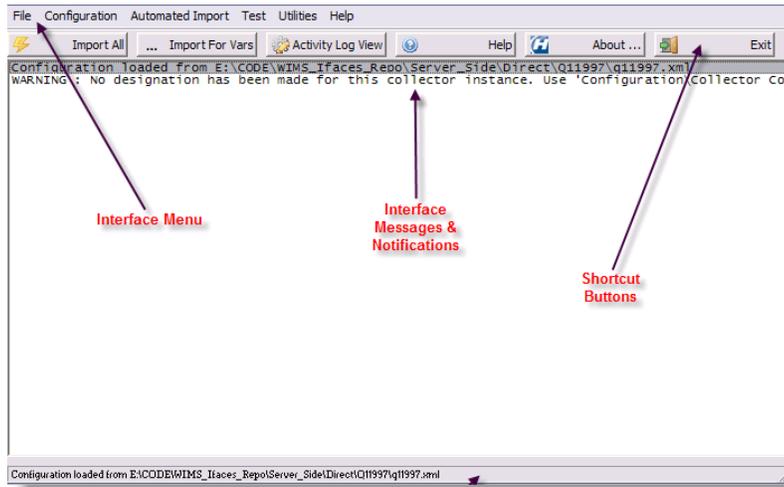
-  Help | Displays help for the current interface screen.
-  Apply Settings | Applies the current settings.
-  Save Settings | Attempts to apply the current changes and save them permanently. The save will fail if the settings cannot be applied first.
-  Close | Closes the current window - no changes are saved.
-  Cancel | Cancel the current activity/operation.

[Reference ID: 12039]

2.8 Using Main Interface Screen

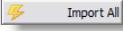
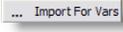
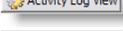
This is the main interface interactive screen.

When running in interactive mode, you can set the various interface configuration settings, monitor & control the interface service, as well as interactively collect data.



The main parts of the of the screen of interest are:

- **Main Menu**
- **The Shortcut Buttons:**

| | |
|---|--|
|  | Import all data(See Section 3.13) . |
|  | Import data for selected variables(See Section 3.14) . |
|  | Monitor service activity(See Section 3.1) . |
|  | Display help for the current window. |
|  | Display general interface information. |
|  | Exit the interactive interface session. |

- The **Interface Messages & Notification** area - the white background area displays scrolling text regarding the interface's activity. All manner of data is logged here, including data collection status, errors, warnings and other general information regarding the interface's current activity.

Depending on the **Verbosity**(See Section 3.4) level set, you may or may not see all information.

If there is a directory called "Log" in the interface directory, the interface will also log to a text file of the form:

<mm_dd_yyyy__hh_mm_ss_interactive.log>

E.g., if the current date is 2/26/2009 and the current time is 3:02:13 PM, the file will be called:
02_26_2009__15_02_13_interactive.log.

- The status bar, at the bottom of the screen, displays miscellaneous information regarding the interface.

[Reference ID: 12036]

2.9 Using Select Date Range to Import

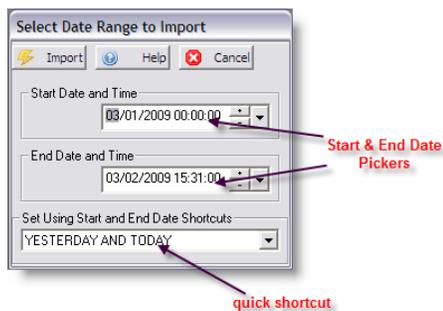
When importing data for one or more specified variables, you have to specify the date range of the source data you want to get.

You can do this in 2 ways:

1. Use both the **Start & End Date Pickers**

- OR -

2. Use a start/end date **quick shortcut**:



Buttons:

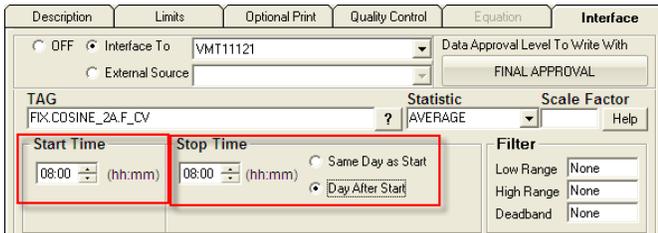
 Import data for the selected dates

Other buttons are described in **Using Common Buttons**(See Section 2.7) .

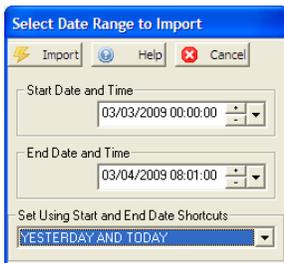
Principle 1: Data will be imported based on the **Start and End Date and Time** and how the variable's **Stop Time** is set up. The **Stop Time** must fall within the date range requested.

Principle 2: Data is stored on the date and time of the variable's **Start Time**.

For example: We set a variable with **Start Time** of 08:00 and a **Stop Time** of 08:00, and select **Day After Start** as shown below.



Then I run the interface to pull data for March 3, 2009 00:00:00 to March 4, 2009 08:01:00.



The interface will return a value for March 2 and March 3. Why? The stop time is our requested date range starting on March 3, 2009 with a stop time of 8 AM. The stop time is computed to March 3, 2009 08:00:00. Since we selected the stop as day after start, the start time is March 2, 2009 at 08:00:00. According to principle #2, the data point is stored on the start time.

So for our example:

| Requested Date | Start Date and Time | Stop Date and Time |
|----------------|------------------------|------------------------|
| March 3, 2009 | March 2, 2009 08:00:00 | March 3, 2009 08:00:00 |
| March 4, 2009 | March 3, 2009 08:00:00 | March 4, 2009 08:00:00 |

If we had set our date range from March 3, 2009 00:00:00 to March 4, 2009 07:59:59, then the interface would return only the first record, because stop time of March 4, 2009 08:00:00 in the second record, is past the end date and time of our range.

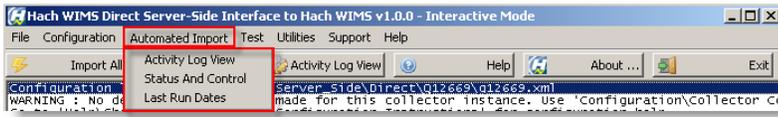
If we had set our date range from March 3, 2009 08:01:00 to March 4, 2009 08:01:00, then the interface would return only the second record, because the Stop Date and Time of the first record (March 3, 2009 08:00:00) does not fall within our start and end date range.

[Reference ID: 12058]

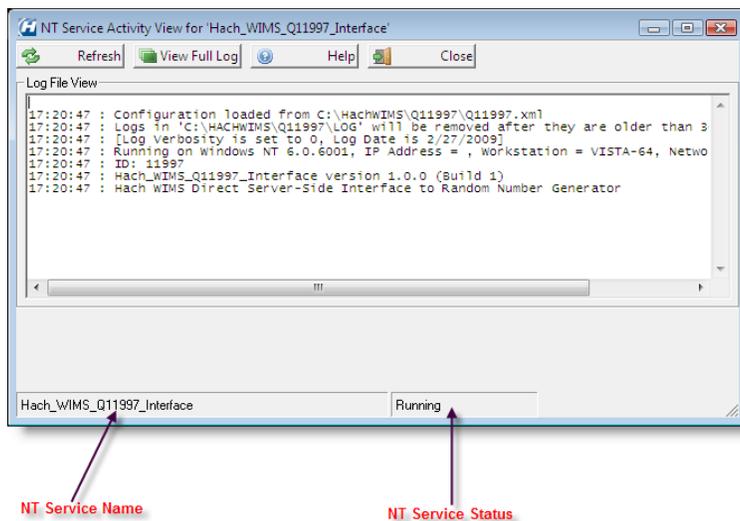
3 - Documentation : Main Menu

3.1 Automated Import - Activity Log View

For Automated Import options, click the **Automated Import** button on the top menu bar of the interface.

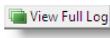


The **Activity Log View** lets you view the interface NT Service log.



Buttons:

 Refresh Force refresh of the service log view. To shorten the refresh interval, see **Configuration - Advanced Configuration**(See Section 3.4) .

 View Full Log View the full service log.

The rest of the buttons are explained in **Using Common Buttons**(See Section 2.7) .

NOTE:

If the log cannot be read, make sure the service name is correct and that it's running. See Automated Import - Status and Control(See Section 3.3) **on how to start the service if it's not running (assuming the service name is correct) and see Configuration - Advanced Configuration**(See Section 3.4) **on how to view/change the service name.**

[Reference ID: 12049]

3.2 Automated Import - Modify Last Ran Dates

This screen lets you modify the per-facility Last-Ran Date of the interface.

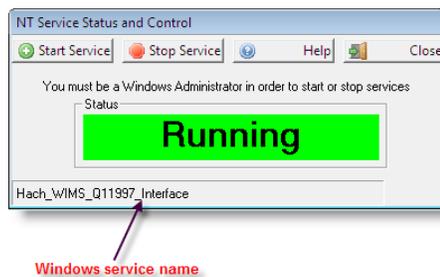
NOTE:

This is different than the default Last-Ran Date described in Configuration - Automated Import Configuration(See Section 3.9) , which is the default Last-Ran Date for ALL facilities that have not had any data imported.

[Reference ID: 12051]

3.3 Automated Import - Status and Control

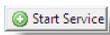
The **NT Service Status and Control** screen lets you monitor the state of interface service, and start or stop the service (Note: you must be logged in as a Windows Administrator):



The name of the service is displayed in the bottom left (see screenshot) corner of the screen. This is the name of the service that the interactive program is configured to monitor.

If this is NOT the name of the service, you can change it from the **Configuration - Advanced Configuration**(See Section 3.4) screen.

Buttons:

 Start the service, if it is not running.

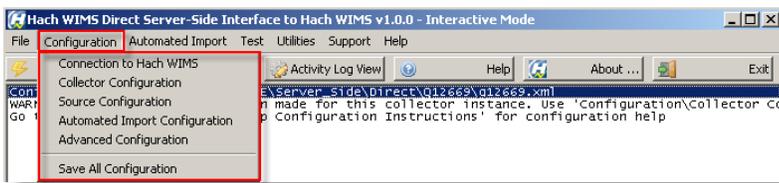
 Stop the service, if it is running.

All other buttons are explained in **Using Common Buttons**(See Section 2.7) .

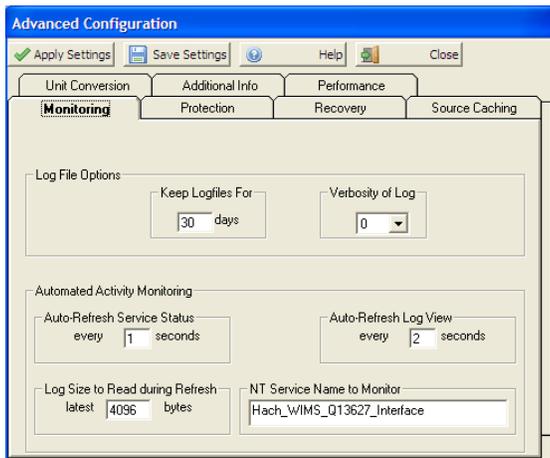
[Reference ID: 12047]

3.4 Configuration - Advanced Configuration

For Configuration options, click on the **Configuration** menu option at the top menu bar of the interface.



The **Advanced Configuration** screen can be used to configure various advanced interface settings:

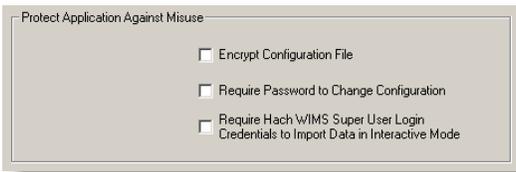


- **Log File Options:**

- ◆ Keep Logfiles - the number of days to keep log files in the Log folder, delete log files older than the number of days specified.
- ◆ Verbosity - the higher this number, the more messages will be logged in the log file and the log window. This is usually meant for trouble-shooting purpose.

- **Automated Activity Monitoring** - use this option to configure the Automated Activity (service mode of the interface) options:

- ◆ Auto-Refresh Service Status - when displaying the **Automated Import - Status and Control**(See Section 3.3) screen - how long to wait between status refreshes.
- ◆ Auto-Refresh Log View - when displaying the **Automated Import - Activity Log View**(See Section 3.1) - the interval of time to wait before refreshing the log view.
- ◆ Log Size to Read during Refresh - the maximum number of characters to actually read in when refreshing the log view.
- ◆ NT Service Name to Monitor - the name of the NT service under which the interface runs. The default is usually fine. **Do NOT change this unless instructed by a Hach Support Engineer, or unless you installed the service under a different name and know what you are doing.**

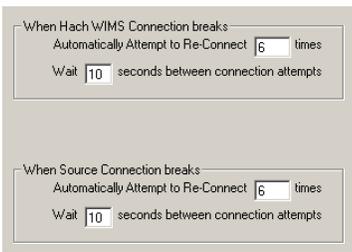


• **Protect Application Against Misuse** - On the **Protection** tab, if you want more security in your interface configuration, you can configure:

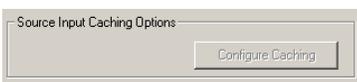
- ◆ **Encrypt Configuration File** - encrypt the contents of the interface configuration file to prevent unauthorized tampering.
- ◆ **Required Password to Change Configuration** - require a password every time the user requests a configuration change. If no password is yet set, you are prompted to supply one.



- ◆ **Require Hach Wims Super User Login ...** - to prevent someone from accidentally overwriting data when running in interactive mode, you can set this option to require people to enter in a super-user ID and password before importing.



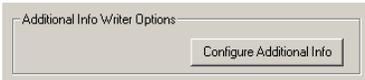
• **When Hach WIMS/Source Connection Break** - on the **Recovery** tab, establishes the number of times to attempt to restore the connection to Hach WIMS/Source and the amount of seconds to wait between attempts.



• **Source Input Caching** - button on the **Source Caching** tab, is enabled when interface supports source input caching. Lets one specify caching conditions. Go to Source Cache Input Configuration(See Section 3.5) for more information.



- **Unit Conversion Options** - On the **Unit Conversion** tab, is enabled when interface supports unit conversion. Lets one specify various units and conversion factor. Go to **Configuration - Advanced Configuration: Unit Conversion**(See Section 3.8) for more information.



- **Additional Info Writer Options** - On the **Additional Info** tab, is enabled when interface supports additional info. The additional info fields must be created in Hach WIMS Client first, then the fields can be mapped by pressing the **Configure Additional Info** button. Go to **Configuration - Advanced Configuration: Additional Info**(See Section 3.6) for more information.



- **Performance Throttle** - on the **Performance** tab, there are several options related to throttling, or slowing down, the connection speed to the database. There are situations where an interface can run too many read/write operations against a database which causes the database to become overwhelmed and incapable of processing other tasks - effectively shutting down other database operations. Throttling the connection speed causes our system to pause between queries and allow the database to process other requests before and/or after we pause the interface.

WARNING! Using the Throttle will slow down interface performance significantly. Only use this option if you are running against database performance issues due to too many read/write operations from the WIMS interface.



- **Insert Artificial Wait between Source Polling** - Allows the user to specify the pause time between queries. This field only accepts whole numbers (no decimals) from 1 to 9999 and is measured in milliseconds. Example 250 milliseconds = 0.25 seconds. Use as little a pause as possible to achieve desired database performance.



- **Process Messages Before Wait** - Allows the user to specify if the database should process other events before the interface pauses.

Note: A user may opt to process other events before and after; or neither if desired. The default is to enable both before and after.



- **Process Messages After Wait** - Allows the user to specify if the database should process other events after the interface pauses.

Note: A user may opt to process other events before and after; or neither if desired. The default is to enable both before and after.

Buttons:

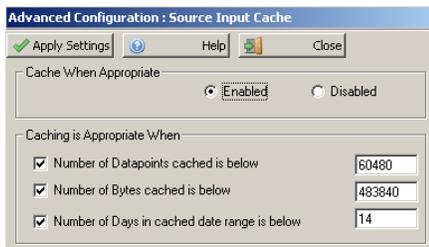
The buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12045]

3.5 Configuration - Advanced Configuration : Source Input Cache

Source Input Cache Configuration, is used to configure criteria for caching, if the interfaces supports caching and the option is **Enabled**. Caching is used to load more data into memory at one time, and retain it for processing variables instead of continuously rereading source data from disk. This will speed up processing, but uses more computer resources - such as memory. Set the parameters to set thresholds for processing chunks of data and so that the interface does not surpass the limitations of your computer.

(Note: Not all interfaces have this feature available)



Click **Apply Settings** to apply changes and return to parent form. Click **Close** to return without applying changes.

[Reference ID: 12132]

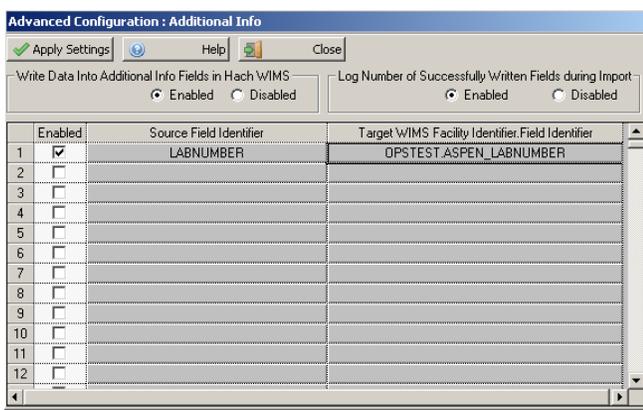
3.6 Configuration - Advanced Configuration: Additional Info

Additional Info, if enabled, is used to configure a cross reference map between fields in the source system and result additional info fields in Hach WIMS. This cross reference map will be then used by the interface during data import.

This feature can be turned off. Simply click the **Disable** radio button under **Write Data Into Additional Info Fields in Hach WIMS**.

The number of successful writes to additional information can be **Enabled** or **Disabled**. Click the appropriate radio button under **Log Number of Successfully Written Fields during Import**.

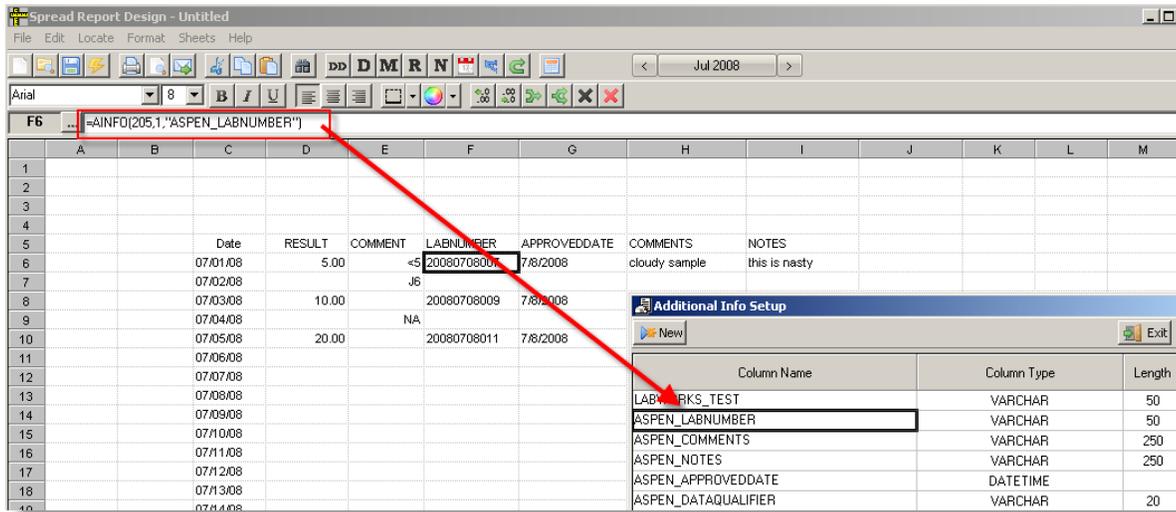
(Note: Not all interfaces have this feature available)



1. Click on any button in the **Source Field Identifier** column to pick a source field.
2. Click on any button in the **Target WIMS Facility Identifier.Field Identifier** column to pick a target field.
3. Right click on any button, and click on **Clear Cell** to erase contents of a cell.



Notice the example output below from Hach WIMS Client > Spread Report Design, additional info is only imported when there is a valid result imported. Also notice how we have the field set up in Additional Info and how we recall the data in Spread Reports.

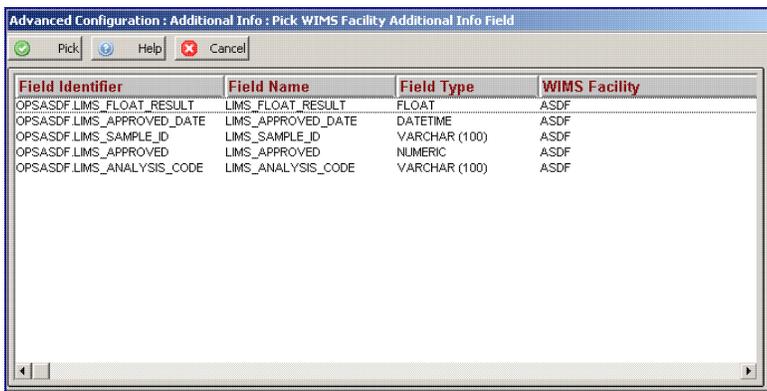


[Reference ID: 12598]

3.7 Configuration - Advanced Configuration: Additional Info : Pick WIMS Facility Additional Info Field

Pick WIMS Facility Additional Info Field window lists all available additional info fields for all facilities connected to your Hach WIMS server.

Select a row to highlight a field, and click the **Pick** button.



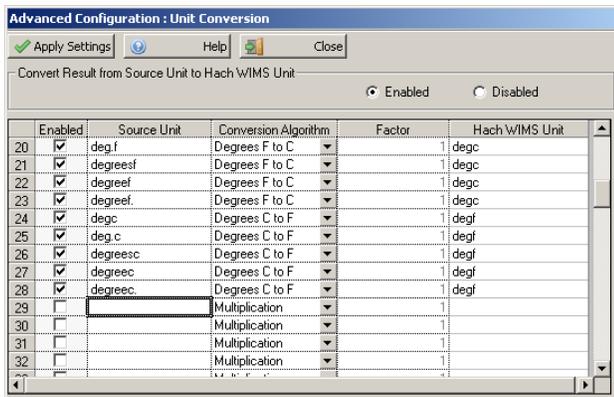
[Reference ID: 12599]

3.8 Configuration - Advanced Configuration: Unit Conversion

Unit Conversion, if enabled, is used to configure unit conversion when the "units" from the source are different than the "units" in Hach WIMS.

This feature can be turned off, simply click the **Disable** radio button under Convert Result from Source Unit to Hach WIMS Unit.

(Note: Not all interfaces have this feature available)



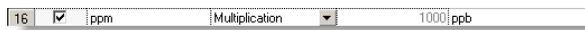
1. Under **Source Unit** enter the text value as it is in the source
2. Select the **Conversion Algorithm**



- ◆ **Multiplication** - Multiply the source result by the **Factor** before writing to Hach WIMS
- ◆ **Degrees F to C** - Convert degrees Fahrenheit to degrees Celsius
- ◆ **Degrees C to F** - Convert degrees Celsius to degrees Fahrenheit

1. Enter the **Factor** amount, how much to multiply the source result by before writing to Hach WIMS. When using the Degrees conversion, enter a 1 (one)
2. Enter the **Hach WIMS Unit** that the Hach WIMS variable will be using

For example, the source result is stored in parts per million ("ppm") and it needs to be converted in Hach WIMS as parts per billion ("ppb"). You could add the following conversion:



(Note: this is one of the default conversions included)

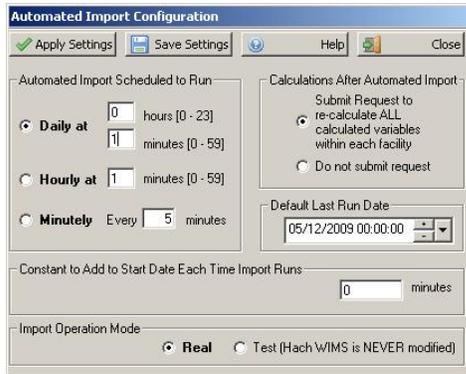
Click **Apply Settings** to apply changes and return to parent form. Click **Close** to return without applying changes.

[Reference ID: 12328]

3.9 Configuration - Automated Import Configuration

Each interface can be configured to run as a service. This is when you want to schedule an automatic retrieval of data, without user intervention.

The **Automated Import Configuration** screen allows you to configure the schedule, whether to submit calculation requests, the Last-Ran Date, and the import operation mode:



- **Automated Import Schedule** - configure when the interface service is scheduled to run:
 - ◆ **Daily** -the interface will run ONCE per day, at the specified schedule. E.g., to run it at 2:30 am, you would enter "2" into the hours box and "30" into the minutes box. Note that time is entered in "military" format. To enter 4:45 pm, you would enter "16" into the hours box, NOT 4.
 - ◆ **Hourly** - the interface will run **every hour** at the specified minute after the hour
 - ◆ **Minutely**- the interface will run **every X minutes** where X is a number between 1 and 1440. E.g., to run it every 5 minutes, you would enter "5".
- **Calculations After Automated Import** - select this option if you would like the Hach WIMS AdoCalc service to recalculate all variables within **every** facility after an import operation completes.
- **Default Last Run Date** - this is the point in time from which the interface service will try to retrieve data, up until the current point in time. After a successful run, the current time will become the last run time. By default, this is set to one day prior to the current day.

E.g., assume today is February 25, 2009, if you have just installed the interface and have 3 months of historical data you want imported into Hach WIMS. You should enter November 25, 2008 as the Last-Run Date (3 months prior to February 25th). Once the interface completes its run, the Last-Run Date will be set to February 25, 2009 automatically. The next time it runs (assuming it runs Daily), February 26, 2009, it will only fetch **one** day's worth of data.

- **Constant to Add to Start Date Each Time Import Runs** - Enter the number of minutes to add to the Start Date when the interface runs in automatic mode. This allows the interface to capture data from previous runs that might not have been available at that time.
 - ◆ During automated import, interface queries source data for the following date range :
from (Last Run Date/time(See Section) + *Constant to Add to Start Date Each Time Import Runs*) *to*
(current date / time)

If your source system does not yet contain the needed data at the time of automated import, use this setting to push back the **from** parameter. For instance, if you need the import to start 2 hours before Last Run Date/time(See Section) , you need to enter value of **-120** (negative 120) to *Constant to Add to Start Date Each Time Import Runs*

NOTE: Situations when you would need to input a positive value in this field are very rare.

Value of 0 (default) has no negative or positive effect on start date.

- **Import Operation Mode** -Real mode imports data into Hach WIMS where as Test does not actually import data, but tests the query capability and timing of the interface.

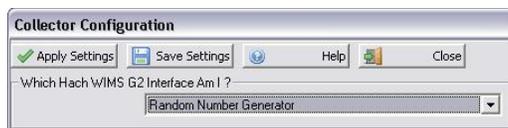
Buttons:

The buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12044]

3.10 Configuration - Collector Configuration

The **Collector Configuration** is the place where you configure the source of your data - the SCADA/LIMS system that holds the data you want to import.



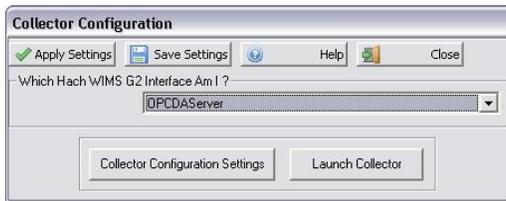
NOTE: Before you can configure the collector, you MUST configure the Connection to Hach WIMS(See Section 3.11) and you must setup the Hach WIMS client(See Section 2.4) .

Select **Which Hach WIMS G2 Interface Am I** for this interface. The names that appear in the drop-down box are the ones that were configured in the Hach WIMS Client. This name is then tied to this interface and is unique.

Buttons:

The buttons are explained in Using Common Buttons(See Section 2.7) .

If the Interface you are using has a separate Collector Utility that generates OPSDATAXML files that it reads from, you can configure and launch it from here.



Collector Configuration Settings Opens a screen that allows you to configure the Collector's settings

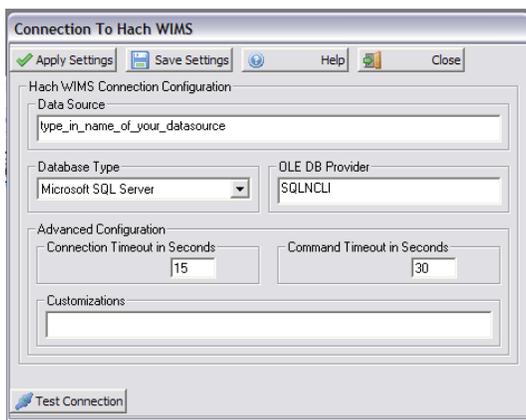
Launch Collector Starts the Collector utility

[Reference ID: 12042]

3.11 Configuration - Connection To Hach WIMS

The **Connection to Hach WIMS** screen lets you configure how the interface will connect to **Hach WIMS Database Server**.

This is one of the first items you configure when setting up a new interface.



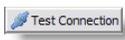
- **Data Source** - this field specifies, in loose terms, the "Database/Datasource server name" where your Hach WIMS system is configured to store data. "Database/Datasource server name" means different things depending on whether you are running against Oracle or MS SQL:
 - ◆ Oracle - you can type in either the Oracle TNS name or a string in the form of *host:port/SID*, if using the Oracle HOSTNAME adapter.
 - ◆ MS SQL - this is in the form of *host\sql_instance_name*
- **Database Type** -select the appropriate type of your Hach WIMS database
- **OLE DB Provider** - this specifies which "database driver" the interface will use when connecting to Hach WIMS and again depends on the database type:
 - ◆ Oracle - the default string should be fine
 - ◆ MS SQL - if connecting to MS SQL 2005 or later, use the native client to connect. Specify SQLNCLI as the provider. **NOTE: You will need to have the Microsoft SQL Native Client installed for this to work.** If connecting to MS SQL 2000, specify SQLOLEDB as the provider.

- **Connection Timeout in Seconds** - how many seconds the program should wait when establishing a connection to the Hach WIMS database before aborting.
- **Command Timeout in Seconds** - specifies how many seconds the program should wait for a query to complete before aborting the operation.

WARNING: Large values for these two settings can cause the program to not respond for a long period of time! Do NOT use 0 unless you know what you are doing - it will cause the program to wait indefinitely, and if your database server is down, the only way to cancel the operation is to forcefully quit the program.

- **Customizations** - this should be left empty unless you were told otherwise by a Hach Support Engineer or you know what you are doing.

Buttons:

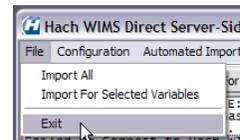


Test to see if the connection settings are valid and the interface is able to connect to Hach WIMS client. This will NOT **Apply** or **Save** the settings.

The other buttons are explained in Using Common Buttons(See Section 2.7) .

[Reference ID: 12037]

3.12 File - Exit



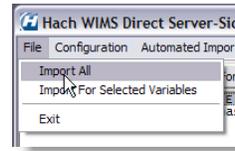
Terminates the interactive interface program.

NOTE:

Clicking "Exit" only closes the interactive interface session. Since the interface can be configured to run as a Windows Service, clicking "Exit" does NOT affect this service, it will continue collecting data. The service can be scheduled to collect data anytime, whether a user is logged on to the machine or not. The service for the interface will continue collecting data whether the interactive program is running or not.

[Reference ID: 12035]

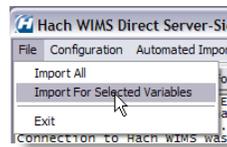
3.13 File - Import All



Imports all data for all variables.

[Reference ID: 12034]

3.14 File - Import For Selected Variables

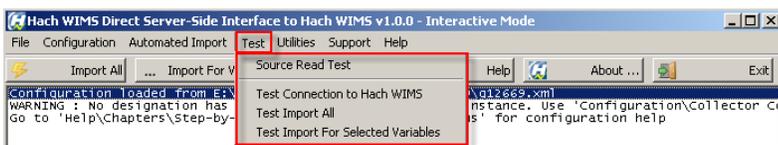


Imports data for the selected variables.

[Reference ID: 12038]

3.15 Test - Source Read Test SCADA to Hach WIMS

For testing options, click on the **Testing** menu option at the top menu bar of the interface.



The **Source Read Test** functionality is useful for source testing purposes.

Use this screen to look at source data for specific dates, using different statistics (MINIMUM, MAXIMUM, AVERAGE, etc).

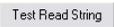
This is useful when you want to look at source data on specific dates, WITHOUT doing an actual import. (No data will be overwritten on the Hach WIMS database.)

To do a test, you will need to specify a tag in the Source Tag field.

Then, for each tag, you can specify:

- The Source Statistic to apply (MINIMUM, MAXIMUM, AVERAGE, etc).
- The start and end dates you want data fetched.
- The high & low ranges, as well as the dead-band (optional).
- The filter tag - a second source tag that acts as a filter to the main selected tag (optional).

Buttons:

-  Interpret the tag as a double (floating-point) tag and return a floating-point number.
-  Interpret the tag as a string tag and return the result as a string.
-  Closes the window.

[Reference ID: 12054]

3.16 Test - Test Connection to Hach WIMS

Perform a test against the Hach WIMS connection to see if the connection is valid

[Reference ID: 12052]

3.17 Test - Test Import All

This performs a **test** import for all interface-configured variables. Note that no actual data will be written to the Hach WIMS database.

[Reference ID: 12053]

3.18 Utilities - Upload Definition File to Hach WIMS

This feature allows you to upload the interface definition (g2_server_lu) file to the Hach WIMS database. This is needed in order to setup a collector record in Hach WIMS.



Once the definition file has been uploaded, proceed with creating a collector record in Hach WIMS Client.

The process to setup a collector record is outlined in How to configure the Hach WIMS Client for a server-side interface(See Section 2.4) .

[Reference ID: 12040]

4 - Documentation : Release notes

4.1 Release Notes for Hach WIMS Direct Server-Side Interface Platform

Build 137

- Modified to handle the new licensing for SQL Server 2012.(4202)
- Handled out of memory error when the interfaces are ran with many variables and date ranges.(4158)
- A change was added to keep the database connection open during the import process.(4106)

Build 135

- Changed logging to user interface (LogToUI) to prevent an "Out of Memory" error when extensive amount of text lines are written to the interfaces list box. (4158)

Build 116

- Updated framework to handle time zone differences and how they affect direct and indirect interfaces

Build 100

- Compatible with Hach WIMS 1.3.8 Database version

Build 85

- Minor change to Advance Configuration to disable Additional Info button if the interface does not support additional info

Build 84

- Fixed a bug that caused interfaces to omit reading of Hach WIMS variables in rare cases when the natural order of records in the VARDESC table did not equal to 'order by varid' on Oracle platforms(3006)

Build 83

- Added support for importing of Additional Entry Fields. For interfaces that support this framework feature, go to Advanced Configuration / Additional Info in order to configure you conversion map (3075)
- Added support for User Interface to display Connection String when clicking on Source Configuration / View Applied Connection String (2821)
- Added support for User Interface to omit asking for Input Dates for interfaces where selecting dates does not make sense (2806)
- Fixed a bug that caused Floating Point rounding to overflow on very large numbers resulting in no rounding being performed on numbers (3016)
- Fixed a bug that caused help.chm to be improperly located by the user interface when interface executable was

launched using Windows Shell command (2932)

- Fixed a bug that caused interfaces of common type SCADA2OPSSQL to halt importing in cases when users went around the program business rules and manually (in the backend) entered OPSROOT.FACILITY.FILENAME field in lowercase (2890)

Build 54

- Added support for Configuring and Launching a Collector Utility

Build 53

- Added support for LIMS2OPSSQL type of framework
- Added support for Unit Conversion

Build 48

- Fixed an interface crash if the selected OLEDB driver could not be found (2406)
- Added a MINUTELY mode of scheduling of automated service (2447)
- Displays a warning message when attempting to import into collector which is linked to incorrect version of g2_lu (2505)
- Added ability to view and edit Last Run Date for Facility UI (2626)

Build 36

- Fixed a loophole that may have allowed interface crash when UI log listbox was about to display more than 32000 lines of log (2495)

Build 34

- Fixed a bug that pulled up incorrect article or category when clicked on submenu Help / Chapters. Platform now requires setting of link constants for every interface custom configuration module (2488)
- Fixed a bug that took users to incorrect link upon clicking on menu item Support / Check for new Updates (2492)

Build 27

- Initial release to public

[Reference ID: 12033]

4.2 Release Notes for SCADA2OPSSQL Type of Hach WIMS Direct Server-Side Interface

Build 60

- Added support for MAXTIME and MINTIME to the import process.(4185)
- Fixed problem importing text values.(4125)
- Added user option setting to keep the database connection open during the entire import process.(4106)

Build 57

- **Added a global variable to CommonGlobals to allow custom notes to the stats summary at the end of a run. I added the global variable to CommonGlobals and it is used in CommonImport (4132)**

Build 56

- Added a global variable to CommonGlobals and CommonImport to keep the CustomImport object alive so its connection would stay open. We were having a problem with a special database driver hanging when it was closed. (4106)

Build 55

- Fixed framework to properly handle Text Parameter type variables (4125)

Build 53

- Updated framework to handle time zone differences and how they affect direct and indirect interfaces

Build 47

- Added logging in CommTAGFilter routine CarryLastValue when verbosity is set to 9

Build 46

- Changed CommonImport to make sure start date is correct when using the Cache feature in Advanced Settings (only affects certain interfaces) (3261)
- Changed CommonTAGFilter to scrutinize data returned from CustomTAGFilter (only affects certain interfaces) (3313)
- Changed CommonTAGFilter to propagate execution error check down to lowest level, so that we can distinguish between an execution error and bad data (only affects certain interfaces) (3426)

Build 41

- Added to CommonTypeDateManager in Common_SCADA2OPSSQL; added code to compensate for daily var that have less than 1440 min/slot (i.e., 60 min from total day) so that it would get current day if the start and stop times have passed current time (Fortress 2673)

Build 40

- Added ability to view connection string in CustomConfig form

Build 37

- Added ability for SCADA2OPSSQL type of interfaces to define a global configuration tree

Build 36

- Fixed problem with statistics TIMELT, TIMEGT, and TIMEEQ not counting the very first record.

Build 34

- Added to caching function to support the following statistics for parameters using flat file databases: TOTAL, AVERAGE, MINIMUM, MAXIMUM, FIRST, LAST, DIFF, RANGE, COUNT, INVENTORY, TIMEGT, TIMELT, and TIMEEQ
- Added to caching function to support the following statistics for text parameters using flat file databases: MINTIME, MAXTIME, FIRST, LAST, COUNT
- Added to caching function to support the following filter operators on filter tags when using flat file databases: =, <, >, <=, >=, <>, and CYCLESTO

(Note: consult the "Topic specific to the operation of this interface" article "Supported Variable Configuration" to see whether your interface supports these available options or not)

Build 28

- Added ability to specify adjustment of start date in minutes when running in automated mode. This can be configured under Configuration / Automated Import Configuration (2445)
- Added support for caching of input to accelerate interface performance of interface that rely heavily on IO (2481)
- Added support for filtering for OLEDB types of SCADA2OPSSQL interfaces (2457)

Build 10

- Initial Release to Public

[Reference ID: 12068]

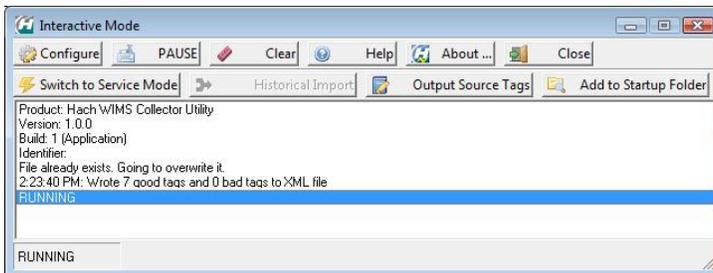
5 - Documentation : Collector

5.1 Collector Interactive Main Screen

This is the main collector interactive screen when running as a Windows Tray Application.

When the Collector is installed as a Windows Tray Application (the default mode) this is the screen that you will interact with. When the Collector is installed as an NT Service you will be presented with a different screen(See Section 5.8) . When you start the Collector it will not be visible by default unless errors occur. To view the main screen, you need to double click on it's icon in the system tray.

When running in this mode, you can set the various collector configuration settings as well as import live and historical data (if supported by your collector).



- **The Shortcut Buttons:**

 **Configure** Allows you to configure the collector's settings.

 **START** Starts the scheduler to import live data. When the collector is scheduled to import live data it is in RUNNING mode. If the collector is in this mode then the START button is replaced with the PAUSE button.

 **PAUSE** Stops the import scheduler for live data. When the collector is not scheduled to import data it is in PAUSE mode. If the collector is already in this mode then the button is replaced with the START button.

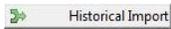
 **Clear** Clears the activity log window.

 **Help** Displays help for the current window.

 **About ...** Brings up general information about the Collector.

 **Close** Hides the Collector. The collector continues to run.

 **Switch to Service Mode** If you installed the Collector as a NT Service, this restarts the Collector in NT Service View and Control mode.



If your Collector supports this feature you can enter a date range to import data from.



Outputs the tags that you are importing into an OPSDATAXML file. This file is needed by the Hach WIMS Client Interface Source Tag Browser.



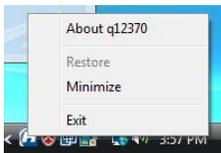
If you want the Collector to startup automatically each time Windows restarts, then click this button. This will copy a shortcut to the Collector into the Windows Startup folder. Note: This is not the same as running as an NT Service.

- **The System Tray:**



When the Collector is running as a Windows Tray Application it will appear in the Windows System Tray as an icon with a big H. To make the Collector visible, double click on the Icon. The icon will appear as 1 of 3 colors:

1. Blue - RUNNING mode. The Collector is scheduled to import live data.
2. Red - PAUSED mode. The Collector is not scheduled to import data.
3. Yellow - MANUAL mode. The Collector is importing Historical data.



If you right click on the Icon in the System Tray a small menu will popup. From this menu you can shutdown the collector by choosing exit. You may also pull up the about box, restore the Collector or minimize it.

- **The Collector Messages & Notification** area - the white background area displays scrolling text regarding the collector's activity. All manner of data is logged here, including data collection status, errors, warnings and other general information regarding the collector's current activity.

Depending on the **Verbosity**(See Section 3.4) level set, you may or may not see all information.

If there is a directory called "Log" in the Collector directory, the Collector will also log to a text file of the form:

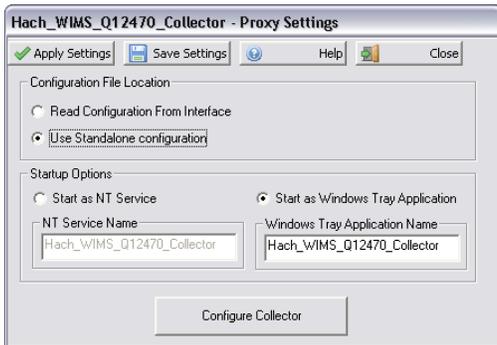
`<mm_dd_yyyy__hh_mm_ss_collector_name_Collector.log>`

E.g., if the current date is 2/26/2009 and the current time is 3:02:13 PM, the file will be called:
`02_26_2009__15_02_13_collector_name_Collector.log`.

- The status bar, at the bottom of the screen, displays what mode the Collector is currently in (RUNNING, PAUSED, MANUAL).

5.2 Collector Proxy Settings

The Collector's Proxy Setting screen tells the Collector how to behave when it starts up.



- **Configuration File Location**

- ◆ **Read Configuration From Interface** - When the Collector is installed on the same machine as the Interface, the Collector by default will read in the configuration information from the same file that the Interface uses to store configuration settings. If you choose this option, the Configure Collector button will be disabled:



To change the configuration settings you need to go to the Interface, click on the menu Configuration/Collector Configuration and press the Collector Configuration Settings button:



- ◆ **Use Standalone configuration** - When the Collector is installed on a different machine (or you don't want it to use the same configuration file as the Interface) choose this option. This will allow the Collector to have it's own configuration file that isn't shared with the Interface and the Configure Collector button will be enabled.

- **Startup Options**

- ◆ **Start as NT Service** - Choose this option if you plan to run the Collector as a NT Service. Choosing this option does not install the Collector as a Service; it tells the Collector that it expects to be run as a service.

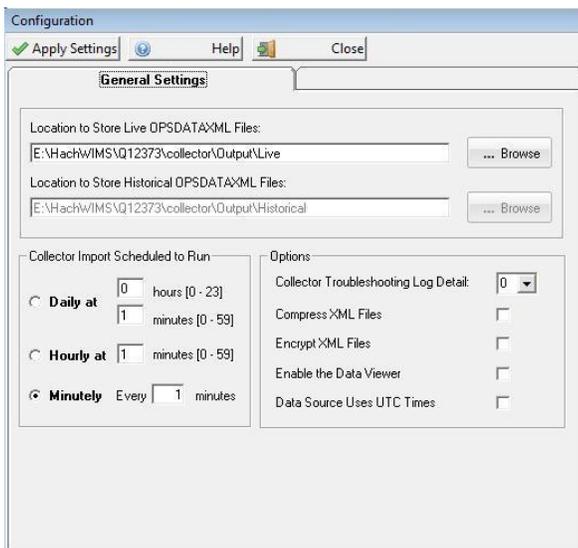
See the documentation(See Section 5.7) on how to install the Collector to run as a Service.

- ◆ **NT Service Name** - The name that the Collector uses when it is run as an NT Service. You may want to change this name if you have more than one collector running as an NT Service.
- ◆ **Start as Windows Tray Application** - This is the default option. In this mode the Collector runs as a standard Windows Application.
- ◆ **Windows Tray Application Name** - The name that you want to give this Collector. This name will appear in the Caption of all the forms/windows that you open.
- **Configure Collector Button** - Allows you to configure the collector's settings.

[Reference ID: 12421]

5.3 Common Collector Configuration

The Configuration Screen allows you to configure the Collector's settings.



- **Live OPSDATAXML Files** - The location where you want the live data OPSDATAXML files stored. The Collector automatically monitors the source tags that you defined and writes it's data to a series of xml files that will be read by the Interface.
- **Historical OPSDATAXML Files** - The location where you want the historical data OPSDATAXML files stored. These are the files that get generated when you manually import historical data.
- **Collector Import Schedule** - configure when the collector is scheduled to import data:

- ◆ **Daily** -the collector will run ONCE per day, at the specified schedule. E.g., to run it at 2:30 am, you would enter "2" into the hours box and "30" into the minutes box. Note that time is entered in "military" format. To enter 4:45 pm, you would enter "16" into the hours box, NOT 4.
 - ◆ **Hourly** - the collector will run **every hour** at the specified minute after the hour
 - ◆ **Minutely**- the interface will run **every X minutes** where X is a number between 1 and 1440. E.g., to run it every 1 minute, you would enter "1".
- **Collector Troubleshooting Log Detail** - Used to specify how much application runtime information to log. The higher the log level the more detail that will be logged. This information will let you know how the program is performing and alert to issues that may need to be addressed.
 - **Compress XML Files** - Check this option if you want to compress the OPSDATAXML files that the collector is generating. If you are collecting many tags the OPSDATAXML files that get generated can get rather large. By compressing them it can take a typical 2MB file and compress it to about 200KB.
 - **Encrypt XML Files** - Check this option if you want to encrypt the data that is stored in the OPSDATAXML files. The Interface will decrypt the files when it uploads the data into WIMS. It should also be noted that when you encrypt the files it also compresses them at the same time.
 - **Enable Data Viewer** - When the Collector is being run as a Windows Tray Application you have the option of whether or not to view the live data of the source tags you are importing. If this is checked, the data viewer will appear below the activity log.
 - **Collector Uses UTC Times** - The Collector will convert the data to UTC Times unless the data already uses UTC Times. Only check this if you are sure that your Collector is using UTC Times. UTC stands for Universal Time Coordinated. It is a coordinated time scale, maintained by the Bureau International des Poids et Mesures (BIPM). It is also known a "Z time" or "Zulu Time".

[Reference ID: 12422]

5.4 Custom Collector Configuration

Use this screen to configure the connection to your GE Proficy Historian, choose the tags you want to export and choose what sampling modes you want to export into OPSDATAXML files.

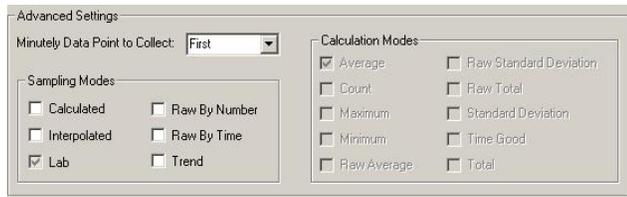
The screenshot shows the 'Source Configuration' tab of the 'GE Fanuc Proficy Historian Connection Configuration' dialog. It features three main sections: 'Data Source' with a text field containing 'vmt11121'; 'Advanced Configuration' with two numeric input fields for 'Connection Timeout in Seconds' (set to 15) and 'Command Timeout in Seconds' (set to 30); and 'User ID' and 'Password' text fields. A 'Test Connection' button with a lightning bolt icon is located at the bottom right.

- **Data Source** - this field specifies, in loose terms, the "Database/Datasource server name" where your GE Proficy iHistorian system is configured to store data.
- **User ID** and **Password** - these fields are only mandatory if the connection to the GE Proficy iHistorian system requires them. These fields should be blank if not used.

- **Advanced Configuration** - these permit adjustment of the command and connection timeout. Currently, these are ignored by the iHistorian OLE DB driver, but are put here to enable future enhancements.
 - ◆ Connection Timeout in Seconds - how many seconds the program should wait when establishing a connection to the GE Proficy iHistorian server.
 - ◆ Command Timeout in Seconds - specifies how many seconds the program should wait for a query to complete before aborting the operation.

Buttons:

 Test to see if the connection settings are valid and the interface is able to connect to Hach WIMS. Does NOT Apply or Save the settings.



- **Minutely Data Point to Collect** - The collector exports Proficy Historian data into OPSDATAXML files that in turn get read into Hach WIMS by an interface. The OPSDATAXML file contains 1 hours worth of data for each tag that has been configured to export data. Each tag in the file contains 60 data points; one data point for each minute in an hour. When the collector collects these one minute samples of data, it needs to know which data point in the minutely period to grab (i.e. the first, last, maximum, minimum or average). This setting is applied to all tags; individual tags can not be configured differently (i.e. you can't configure one tag to select the first data point in a minutely period, and another the last data point in a minutely period).

• **Sampling Modes:**

(The following is taken directly from GE Proficy Historian Electronic Books from Proficy Historian version 3.1.0.1760)

Sampling Mode is the mode of sampling from the archive. The following is supported sampling modes, their definition, and a sample of the query using the statistic AVERAGE for example:

| SAMPLING MODE | DEFINITION | SQL QUERY |
|----------------------|---|---|
| AVERAGE.INTERPOLATED | Retrieves evenly spaced interpolated values based on NumberOfSamples and the time frame criteria. | select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = INTERPOLATED AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality |
| AVERAGE.RAWBYTIME | Retrieves raw archive values based | select Avg(Value) as Value, Quality from |

| | | |
|---------------------|--|---|
| | <p>on time frame criteria. NOTE: when selected, ROWCOUNT is set to zero (0) in order to retrieve all records for the Q11924 interface. WARNING: this sampling mode returns values for every second and will take significantly longer to process data.</p> | <p>ihRawData WHERE SamplingMode = RAWBYTIME AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND RowCount = 0 AND Quality > 0 GROUP BY Quality</p> |
| AVERAGE.RAWBYNUMBER | <p>Retrieves raw archive values based on the StartTime criteria, the NumberOfSamples, and Direction criteria. Note the EndTime criteria is ignored for this Sampling mode.</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = RAWBYNUMBER AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 and direction = backward AND Quality > 0 GROUP BY Quality</p> |
| AVERAGE.CALCULATED | <p>Retrieves evenly spaced calculated values based on NumberOfSamples, the time frame criteria, and the CalculationMode criteria.</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = AVERAGE AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality</p> |
| AVERAGE.LAB | <p>Returns actual collected values without interpolation.</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = LAB AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND Quality > 0 GROUP BY Quality</p> |
| AVERAGE.TREND | <p>Returns the raw minimum and raw maximum value for each specified interval. Use the Trend sampling mode to maximize performance when retrieving data points for plotting.</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = TREND AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality</p> |

- **Calculation Mode** - The CalculationMode column only applies if the SamplingMode is set to Calculated. It

represents the type of calculation to perform on archive data. The following is supported calculation modes:

| CALCULATION MODE | SQL QUERY |
|--------------------------------------|---|
| AVERAGE.CALCULATED.AVERAGE | select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = AVERAGE AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality |
| AVERAGE.CALCULATED.COUNT | select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = COUNT AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality |
| AVERAGE.CALCULATED.MAXIMUM | select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = MAXIMUM AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality |
| AVERAGE.CALCULATED.MINIMUM | select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = MINIMUM AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality |
| AVERAGE.CALCULATED.STANDARDDEVIATION | select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = STANDARDDEVIATION AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality |

| | |
|--|--|
| <p>AVERAGE.CALCULATED.TOTAL</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = TOTAL AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality</p> |
| <p>AVERAGE.CALCULATED.RAWAVERAGE</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = RAWAVERAGE AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality</p> |
| <p>AVERAGE.CALCULATED.RAWSTANDARDDEVIATION</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = RAWSTANDARDDEVIATION AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality</p> |
| <p>AVERAGE.CALCULATED.RAWTOTAL</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = RAWTOTAL AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality</p> |
| <p>AVERAGE.CALCULATED.TIMEGOOD</p> | <p>select Avg(Value) as Value, Quality from ihRawData WHERE SamplingMode = CALCULATED AND CalculationMode = TIMEGOOD AND Tagname = 'FIX.COSINE_2A.F_CV' AND TimeStamp > '05/08/2008 23:59:59' AND TimeStamp < '05/10/2008 00:00:00' AND NumberOfSamples = 1440 AND Quality > 0 GROUP BY Quality</p> |

• **Default Settings:**

This interface has default settings depending on the statistic selected.

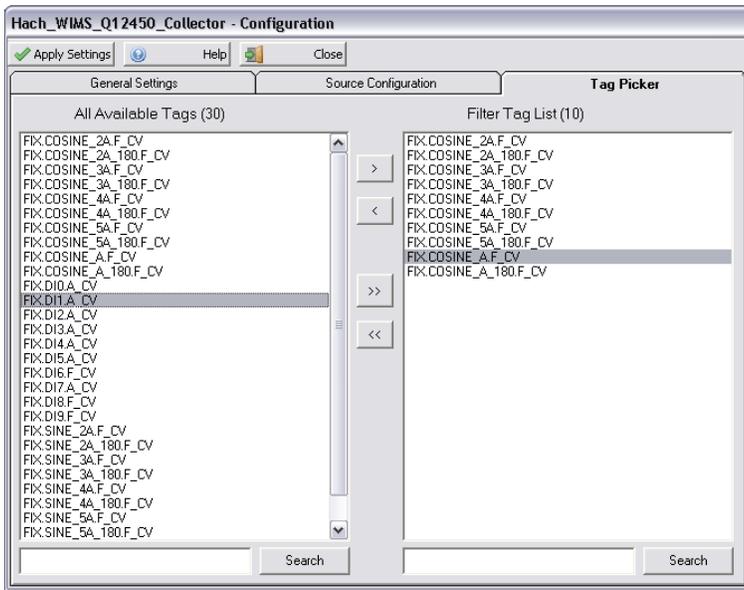
By default **SAMPLINGMODE** is set to **LAB** for all statistics except INVENTORY and RAINGAUGE which use RAWBYTIME.

If **SAMPLINGMODE** is set to **CALCULATED**, then the following rule is set by default (but can be changed):

| If STATISTIC is, | then CALCULATION MODE is |
|---|--------------------------|
| MINIMUM.Calculated | MINIMUM |
| MAXIMUM.Calculated | MAXIMUM |
| COUNT.Calculated, CYCLE.Calculated, TIMELT.Calculated, TIMEGT.Calculated, and TIMEEQ.Calculated | COUNT |
| [All Others].Calculated | AVERAGE |

This means if you only specify **MINIMUM.CALCULATED** then the **CALCULATION MODE** will be set to **MINIMUM**.

- **Tag Picker**



All Available Tags - The column on the left lists all the tags available in the Proficy Historian.

Filter Tag List - This is the list of tags that gets exported in OPSDATAXML files that can be read into Hach WIMS client via an interface. You should only add tags to the filter list that you plan on using in Hach WIMS client. The more tags you add the slower the collector will run.

[Reference ID: 12468]

5.5 Generate Example OPSDATAXML File for Hach WIMS Client

The Hach WIMS Client needs to know what tags are available to link to WIMS variables. The Hach WIMS Client uses a browser control that contains a list of all the available tags that you defined. In order for the browser control to know what these tag are, it reads them in from an OPSDATAXML file. Once you have configured all the tags that you are interested in you need to open up the following screen:



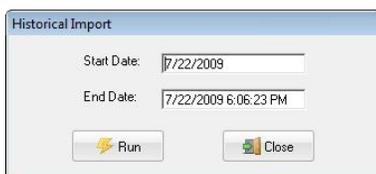
You can launch this screen by click on  Output Source Tags from the main Window.

Click the Save button to generate a file that contains all the tags. Remember where this file is stored because when you configure the Interface in Hach WIMS Client, it will ask where this file is stored.

[Reference ID: 12425]

5.6 Historical Data Import

This screen allows you to import historical data. If your data source maintains historical data then you can import data for the date range that you enter. The collector will read the historical data for the date range specified and copy the data into OPSDATAXML files. Once the OPSDATAXML files have been generated you will have to import them into Hach WIMS client using your Interface(See Section 2.9) .



Start Date - The beginning of the date range to import

End Date - The end of the date range to import

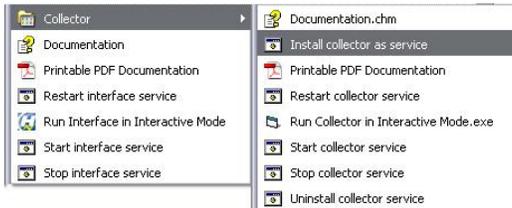
Run - Starts the import process

Close - Closes the Window and does not import data

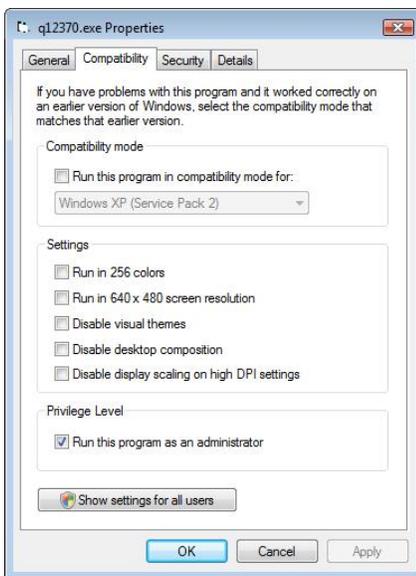
[Reference ID: 12424]

5.7 Install Collector as a NT Service

The Collector can be installed as a NT Service. By default it runs as a traditional Windows Tray Application. Installed with the Collector is a batch file that will configure the Collector to run as a Service. If you click on the Start menu, choose HACH Company/Hach WIMS/Your Interface/Your Collector you will see the file called 'Install collector as service'. If you select this file it will go ahead and configure the Collector to run as a service. The next time Windows starts the Collector Service will start automatically.



For Windows Vista users you will need to perform the following step: You need to configure the Collector to run as an administrator. To run as an administrator, right click on the collector's executable file (i.e. Q12370.exe) and select Properties. Choose the Compatibility tab and check 'Run this program as an administrator'.



You can now start the Collector and run it as a Service. When you double click on the Collector's executable file it will open up the **NT Service Collector Interactive Screen**(See Section 5.8) . From that screen you can open the **NT Service Status and Control Screen**(See Section 5.10) so you can start the Service (after installing the Service it won't be started yet).

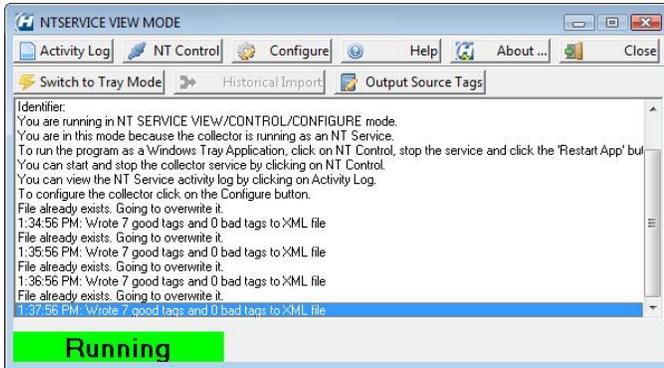
[Reference ID: 12428]

5.8 NT Service Collector Interactive Screen

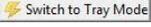
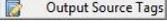
This is the Collector's interactive screen when running as a NT Service.

When the Collector is installed as a NT Service this is the screen that you will interact with. When the Collector is installed as a Windows Tray Application you will be presented with a different screen(See Section 5.1) .

When running in NT Service interactive mode, you can set the various collector configuration settings, view and control the Service status as well as import historical data (if supported by your collector).



- **The Shortcut Buttons:**

-  **Activity Log** Allows you monitor the Service activity
-  **NT Control** Allows you start and stop the Collector Service as well as view the Service's current status.
-  **Configure** Allows you to configure the collector's settings.
-  **Help** Displays help for the current window.
-  **About ...** Brings up general information about the Collector.
-  **Close** Closes the application. If the Collector Service was running it will continue to run.
-  **Switch to Tray Mode** Stops the Collector from running as an NT Service and restarts the Collector as a Windows Tray Application.
-  **Historical Import** If your Collector supports this feature you can enter a date range to import data from.
-  **Output Source Tags** Outputs the tags that you are importing into an OPSDATAXML file. This file is needed by the Hach WIMS Client Interface Source Tag Browser.

- **The Collector Messages & Notification area** - the white background area displays scrolling text regarding the collector's activity. All manner of data is logged here, including data collection status, errors, warnings and other general information regarding the collector's current activity.

Depending on the **Verbosity**(See Section 3.4) level set, you may or may not see all information.

If there is a directory called "Log" in the Collector directory, the Collector will also log to a text file of the

form:

<mm_dd_yyyy__hh_mm_ss_collector_name_Collector.log>

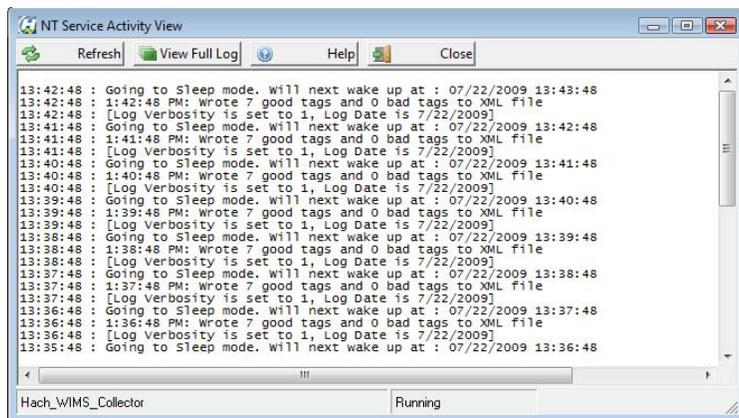
E.g., if the current date is 2/26/2009 and the current time is 3:02:13 PM, the file will be called:
02_26_2009__15_02_13_collector_name_Collector.log.

- The status bar, at the bottom of the screen, displays the status of the NT Service.

[Reference ID: 12420]

5.9 NT Service Log View

The **Activity Log View** lets you view the Collector's NT Service log.



Buttons:

 Refresh Force refresh of the service log view.

 View Full Log View the full service log.

NOTE:

If the log cannot be read, make sure the service name is correct and that it's running. See NT Service Status and Control (See Section 5.10) on how to start the service if it's not running (assuming the service name is correct) and see Proxy(See Section 5.2) Settings(See Section 5.2) on how to view/change the service name.

[Reference ID: 12426]

5.10 NT Service Status and Control

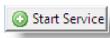
The **Status and Control** screen lets you configure and monitor the state of collector service:



The name of the service is displayed in the bottom left (see screenshot) corner of the screen. This is the name of the service that the interactive program is configured to monitor.

If this is NOT the name of the service, you can change it from the **Proxy Settings**(See Section 5.2) screen.

Buttons:

 Start the service, if it is not running.

 Stop the service, if it is running.

[Reference ID: 12427]

5.11 Release notes for collector Q12450

Version 1.0.2 (Build 34, Released on 9/7/2010)

- Upgraded to Common Framework build 116, SCADA Framework build 53, Updated framework to handle time zone differences and how they affect direct and indirect interfaces

Version 1.0.1 (Build 18, Released on 8/31/2009)

- Added encryption and compression support to the OPSDATAXML data files

Version 1.0.0 (Build 15, Released on 7/31/2009)

- Initial release for distribution.

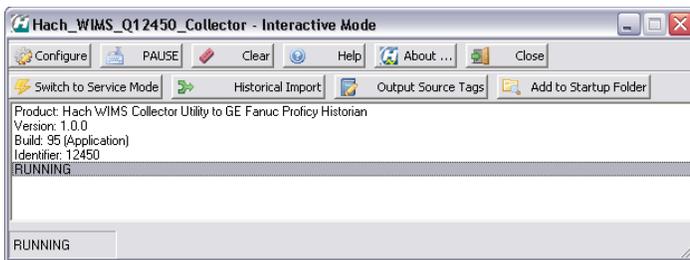
[Reference ID: 12464]

5.12 Using the GE Proficy Historian Collector (Q12450)

The disconnected GE Proficy Historian Interface does not communicate directly with the Historian. Instead, the interface reads in OPSDATAXML files that have been generated by a Collector Utility that reads the Proficy Historian data. Every hour the Collector reads in data from the Historian for each configured tag and writes the data to a new OPSDATAXML file. Each file contains 60 data points (one for every minute in an hour) for each tag that you are monitoring. Once OPSDATAXML files are being generated the Interface will start reading the data into Hach WIMS.

Although it is possible to run the Collector and Interface on the same machine this version of the Interface was designed to have the Interface and Collector on separate machines. This Interface deals with the situation in which the Interface is not able to communicate directly with the GE Proficy Historian. If the Interface can communicate directly with the Historian you will want to use Interface Q11924.

To start the Collector you need to double click on the file Q12450.exe. Clicking on this file brings up the Interactive Screen.

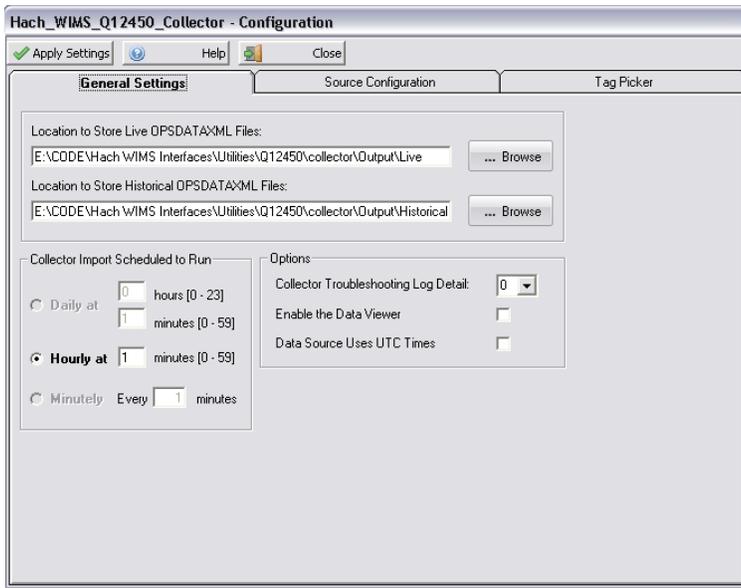


The Collector will not start collecting data until it has been configured. Click on the Configure button to configure your settings. When you click on the Configure button you are presented with a Proxy Setting screen before being able to configure the Collector's settings.

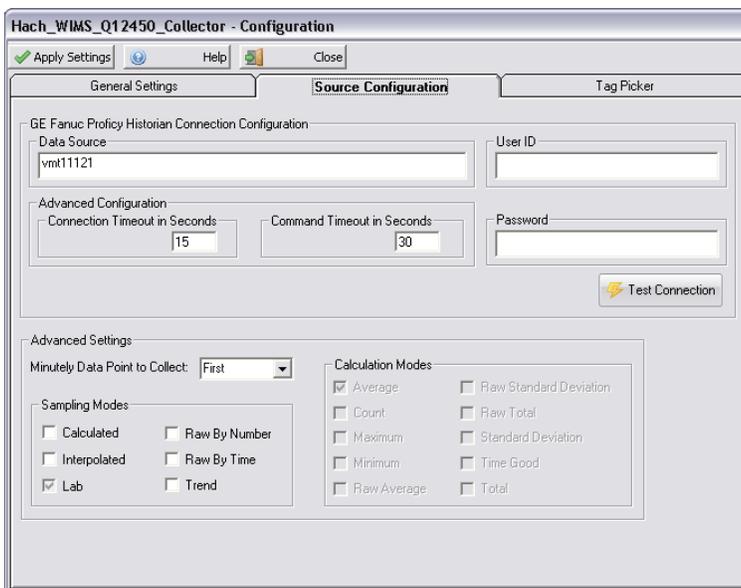


The proxy screen contains needed information on how you plan to run the Collector. You will want to check "Use Standalone configuration" and "Start as Windows Tray Application". Click the Configure Collector button to continue configuring the collector's settings.

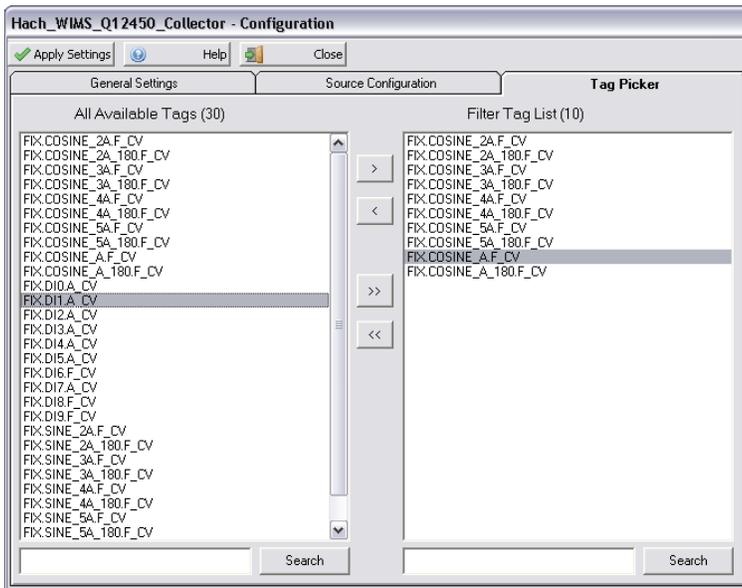
In the configuration screen you have three tabs of configuration settings. The "General Settings" tab contains information on how you want the Collector to run.



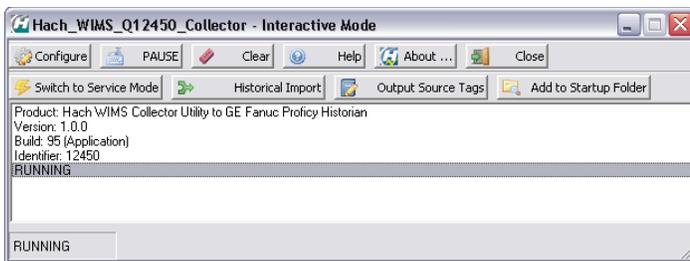
In the **Source Configuration** tab you configure the connection to the GE Proficy Historian and choose the various sampling modes you want to export data for.



If the Collector is able to connect to the Proficy Historian then you will a list of all the available tags in the **Tag Picker** tab. The Collector will only export data for the tags in the Filter Tag List. Only add tags to this list that you plan to export into Hach WIMS client. The more tags in this list, the slower the collector will run.



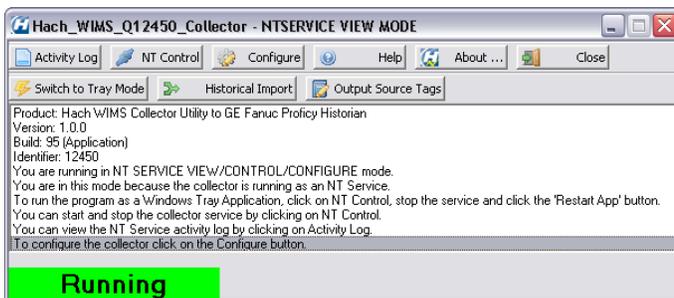
When you launch the Collector it will either start as a Windows Tray Application (default) or in NT Service View and Control mode. The standard screen is below.



If the status bar shows "RUNNING" then the Collector is scheduled to run and collect the Historian data. If the status is "PAUSED" you need to configure the connection to the OPC Server and click the Start button. If the collector is not able to communicate with the Historian or if no tags have been selected yet, then the collector will not run. If you start the collector and it does not appear on the screen then you can find it in the Windows System Tray (by default the Collector is hidden when it is started unless errors occur during startup). You can double click on it's icon in the System Tray to make it visible.



When the Collector is installed to run as a service you are presented with the following screen when starting the application.



From here you can see if the Service is running, configure it, stop it, start it, and view the activity log files.

[Reference ID: 12469]

6 - Documentation : Topics specific to the operation of this interface

6.1 Configuration - Source Configuration Q12447

To configure your **Hach WIMS Server-Side Interface to GE Proficy Historian**:

1. Open Source Configuration.



2. Set the folder location of the OPSDATAXML files to import.

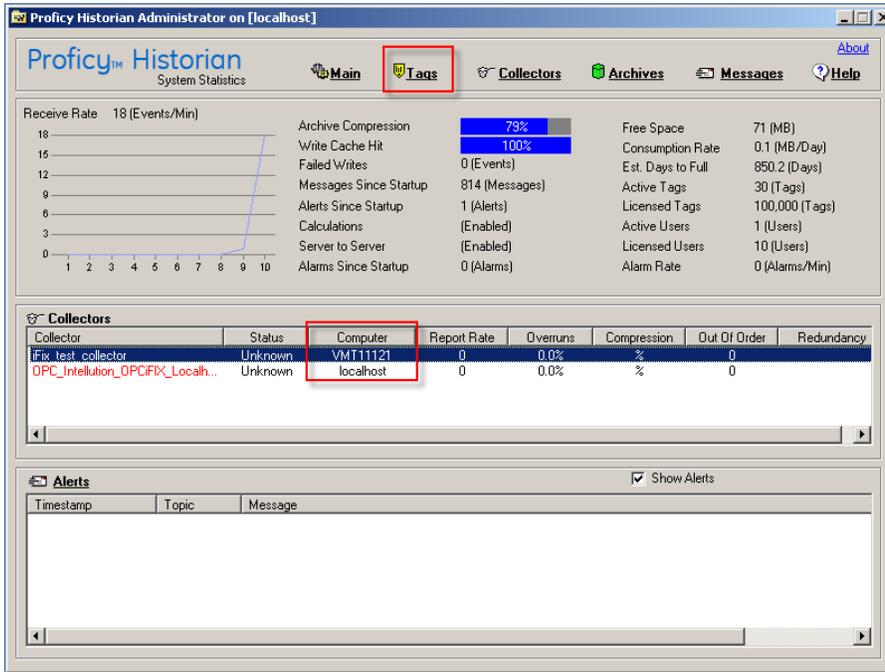


[Reference ID: 12463]

6.2 Configure GE Proficy Historian

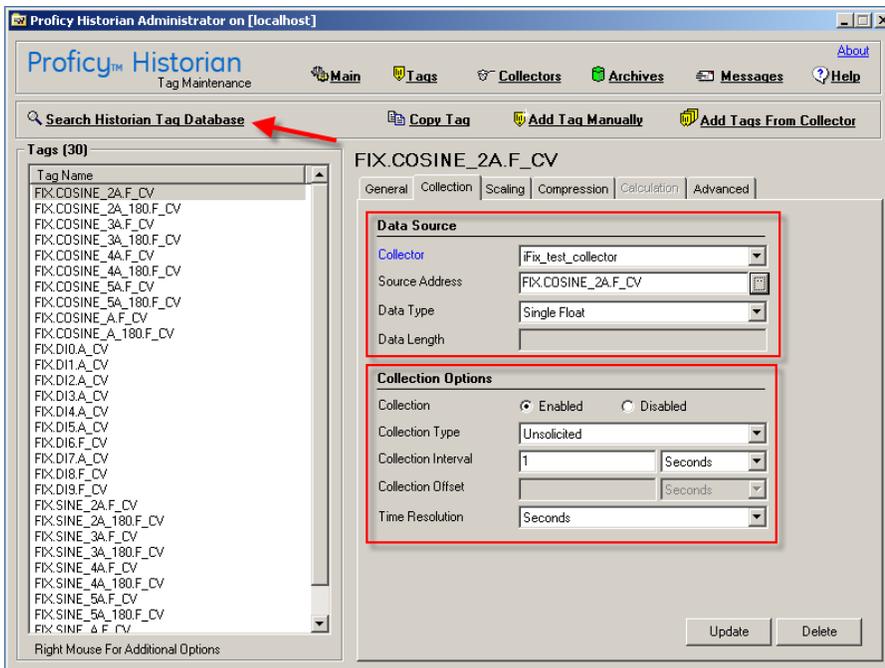
You will need to accomplish the following steps to configure signal tags in GE Proficy Historian. This interface was tested against the GE Proficy Historian version 3.1.

When you run the Proficy Historian Administrator, you should see the screen below:



Notice the first line in the Collectors box has iFix_test_collector and the Computer is 'VMT11121'. Our Data Source for setting up the interface will be VMT11121.

Click the **Tags** option, and the screen below will appear:



Click on the **Search Historian Tag Database** to retrieve a listing of tags. Select a tag, click the **Collection** tab and begin configuring its **Data Source** and **Collection Options** on the right hand side of the screen. See the GE Proficy Historian help guide for more detailed instructions.

Notice the Proficy Historian Administrator enables data collection at different **Collection Intervals** (milliseconds, seconds, minutes, etc). The Hach WIMS interface will group data in 1 minute intervals to perform its calculations. For best results, select a **Collection Interval** of 1 Second.

[Reference ID: 12070]

6.3 Release notes for interface Q12447

Version 1.0.9 (Build 127, Released on 1/25/2013)

- Updated to the latest common framework
- Fixed problem uploading the G2_Server_LU file

Version 1.0.8 (Build 124, Released on 5/9/2012)

- Added support for SQL Server 2012 licensing.(4202)

Version 1.0.7 (Build 98, Released on 11/2/2010)

- Fixed problem with the timezone of the computer system running the Interface is affecting the results when it should not

Version 1.0.6 (Build 93, Released on 9/28/2010)

- Fixed problem with reading encrypted/compressed XML files

Version 1.0.5 (Build 91, Released on 9/7/2010)

- Upgraded to Common Framework build 116, SCADA Framework build 53, Updated framework to handle time zone differences and how they affect direct and indirect interfaces

Version 1.0.4 (Build 72, Released on 7/30/2010)

- Upgraded interface to Common Framework Build 100

Version 1.0.3 (Build 56, Released on 2/9/2010)

- Upgraded interface to SCADA2OPSSQL Framework Build 47

Version 1.0.2 (Build 47, Released on 10/23/2009)

- Upgraded interface to Common Framework Build 85

Version 1.0.1 (Build 23, Released on 8/31/2009)

- Added encryption and compression support to the OPSDATAXML data files

Version 1.0.0 (Build 17, Released on 7/31/2009)

- Initial release for distribution.

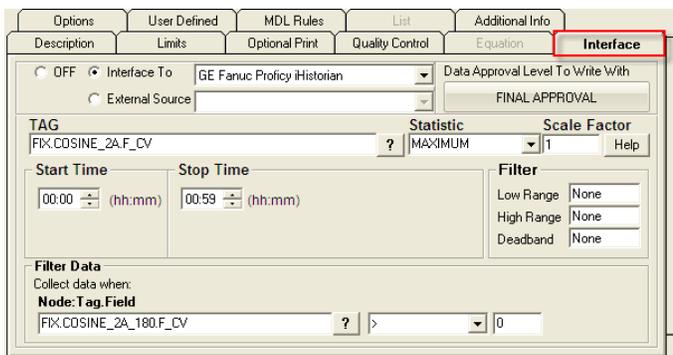
[Reference ID: 12460]

6.4 Supported variable configurations for interface Q12447

Supported variable configurations for the **Hach WIMS Server-Side Interface to GE Proficy Historian**.

To configure a variable to hold values from GE Proficy Historian, select **Edit/View Variables** in the client and select the **Interface** tab.

Then click **Interface To** radio button. The drop down box next to the option is now enabled, click the drop down arrow and choose the GE Proficy Historian interface name (name given when configuring the interface).



Now you are ready to configure a signal tag from the GE Proficy Historian. The Tag name and a statistic are all that are mandatory.

- **TAG**
 ? This is the tag name in the GE Proficy system. The Proficy Historian refers to it as the Tag Name. The ? symbol (question mark) will allow you to browse the Proficy Historian for tag names. An explanation of the browser can be found in Using Interface Browser Q12429(See Section 6.6) .
- **Statistic**
 This is a listing of all the statistics supported by this interface. This includes the following statistics for a specified time period:

| STATISTIC | DESCRIPTION | SQL QUERY |
|-----------|-------------|-----------|
|-----------|-------------|-----------|

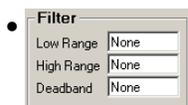
| | | |
|---------|---|--|
| AVERAGE | Take the average of the data points | SELECT AVG(Value) FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 |
| TOTAL | Take the sum total of all values | SELECT SUM(Value) FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 |
| MINIMUM | Get the minimum value | SELECT MIN(Value) FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 |
| MAXIMUM | Get the maximum value | SELECT MAX(Value) FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 |
| FIRST | Get the first value | SELECT TOP 1 Value, Timestamp FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 ORDER BY Timestamp |
| LAST | Get the last value | SELECT TOP 1 Value, Timestamp FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 ORDER BY Timestamp DESC |
| DIFF | Calculate the difference between the first and last values. If the first value is larger than the second then it will perform the following calculation: $(10^{\text{Ceil}(\text{LOG}(\text{first_value}) / \text{LOG}(10))}) - \text{first_value} + \text{last_value}$ Ceil will cause the value to round up | <ol style="list-style-type: none"> 1. Get FIRST value 2. Get LAST value 3. RESULT = LAST - FIRST 4. IF RESULT < 0 THEN $(10^{\text{Ceil}(\text{LOG}(\text{first_value}) / \text{LOG}(10))}) - \text{first_value} + \text{last_value}$ |
| RANGE | Calculate the absolute value of the difference between the minimum and maximum values | <ol style="list-style-type: none"> 1. Get MIN value 2. Get MAX value 3. Get ABS(MIN - MAX) |

| | | |
|-----------|--|---|
| INVENTORY | Return the total use based on a tank level signal. For example, the level is 10 feet at midnight and slowly goes down to 2 feet at 2:00 PM, then gets filled to 15 feet and slowly goes down to 8 feet at midnight. The inventory function would return $((10 - 2) + (15 - 8)) = 15$. | <ol style="list-style-type: none"> 1. SELECT Value FROM ihRawData WHERE Tagname='TANK_LEVEL' AND SamplingMode='RawByTime' AND Timestamp>='03/01/2009 00:00:00' AND Timestamp<'03/02/2009 00:00:00' 2. Loop through the records returned and sum the downward trends greater than the Deadband |
| TIMEGT(x) | Counts the number of values greater than the given number (x). If left unspecified it will use zero (0). | SELECT COUNT(Value) FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 AND Value > x |
| TIMELT(x) | Counts the number of values less than the given number (x). If left unspecified it will use zero (0). | SELECT COUNT(Value) FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 AND Value < x |
| TIMEEQ(x) | Counts the number of values equal to the given number (x). If left unspecified it will use zero (0). | SELECT COUNT(Value) FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 AND Value = x |
| COUNT | Counts the number of data points. | SELECT COUNT(Value) FROM ihRawData WHERE SamplingMode='Lab' AND Tagname='EF_FLOW' AND Timestamp>='3/1/2009 00:00:00' AND Timestamp <'3/2/2009 00:00:00' AND NumberofSamples=1440 |

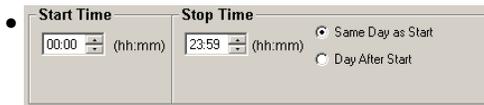
For advanced options, see Advanced Settings for Supported Variable Configuration for Interface Q12447(See Section 6.5) .



This is the value to multiply the result by when using parameter variable types. Commonly used to convert from one unit base to another. For example to convert gallons per minute (GPM) to gallons per day (GPD), set the scale factor to 1440 (1440 minutes per day).



All three fields must have numeric values or the word None (as shown). The Low Range and High Range will crop data from the source. For example to eliminate negative numbers from a particular tag, set the Low Range to 0 (zero) - this will get any values equal to or greater than 0 (zero). The Deadband is used for the statistic Inventory and will eliminate noise levels up to the value specified. For example, if you enter .5 next to Deadband, any value change of .5 or less, will be ignored.



- ◆ Start Time will set the beginning of the time slot for this variable.
- ◆ Stop Time will set the ending time for the time slot.
- ◆ Same Day as Start is only used by daily variables and it means the stop time is on the same day as the start time.
- ◆ Day After Start is also only used by daily variables and it means the stop time is a day after the start time.



- ◆ Node Tag Field is the signal tag to filter by from the GE Proficy Historian. You can find tag names using the ? the same way you found the signal tag above.
- ◆ The second field is the filter operator drop down. This includes the following:

| SYMBOL | DESCRIPTION |
|--------|--|
| < | Less than, true if the value returned is less than the filter value |
| > | Greater than, true if the value returned is greater than the filter value |
| = | Equal to, true if the value returned is equal to the filter value |
| <= | Less than or equal to, true if the value returned is less than or equal to the filter value |
| >= | Greater than or equal to, true if the value returned is greater than or equal to the filter vaue |
| <> | Not equal, true if the value returned is not equal to the filter value |

- ◆ The last field is the filter value. The value returned from the filter tag is compared to this value.

[Reference ID: 12462]

6.5 Supported Variable Configurations for Interface Q12447 - Advanced Settings

The advanced settings pertain to the variable Statistic and how the value is calculated. GE Proficy Historian enables various methodologies to gather data from its archives, and these settings apply most of those capabilities.

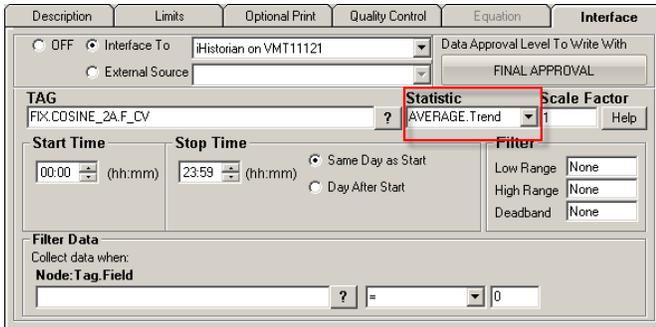
1. Changing Sampling and/or Calculation Modes:

The Q12447 inteface uses dot notation in the STATISTIC field. This field can be extended to include sampling mode and

calculated mode (when applicable). The format for this is: **STATISTIC.SAMPLINGMODE.CALCULATIONMODE**. The text entered here is not case sensitive so **average.trend** is the same as **AVERAGE.TREND**. Let's look at how we set this up. NOTE: INVENTORY and RAINGAUGE use sampling mode "RawByTime" and cannot be changed.

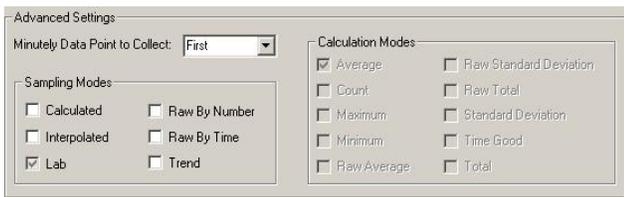
First, select the Statistic you want for this variable from the drop down list, for example: **AVERAGE**.

Second, type a dot "." after the statistic and type in the Sampling Mode (from the list below) that you want to use. If you want the Average of the Trend sampling mode, your variable Statistic would look like this: **AVERAGE.Trend** (as shown below)



Third, and optionally, you can define Calculation Mode if you selected Calculated for the Sampling Mode. Simply add a dot "." after the Sampling Mode and enter one of the Calculation Mode's listed below. If you want the Average of the Calculated Maximum, you would enter the following in the Statistic field: **Average.Calculated.Maximum**.

NOTE: If you want to import data other than the default sampling mode of 'Lab' you need to specify in the Collector what other types of sampling modes you are interested in. If in the Variable Configuration for the Interface you configure a variable to use a sampling mode 'Interpolated' no results will be returned unless you check 'Interpolated' in the Collector. Also, the more sampling and calculation modes you select in the Collector, the more slowly it will run (i.e. if you select 4 sampling modes the Collector will have to process 4 times as much data as if you just selected the default sampling mode 'Lab')



2. Sampling Modes:

Sampling Mode is the mode of sampling from the archive. The following is supported sampling modes, their definition, and a sample of the query using the statistic AVERAGE for example:

| SAMPLING MODE | DEFINITION |
|----------------------|---|
| AVERAGE.INTERPOLATED | Retrieves evenly spaced interpolated values based on NumberOfSamples and the time frame criteria. |

| | |
|---------------------|--|
| AVERAGE.RAWBYTIME | Retrieves raw archive values based on time frame criteria. |
| AVERAGE.RAWBYNUMBER | Retrieves raw archive values based on the StartTime criteria, the NumberOfSamples, and Direction criteria. Note the EndTime criteria is ignored for this Sampling mode. |
| AVERAGE.CALCULATED | Retrieves evenly spaced calculated values based on NumberOfSamples, the time frame criteria, and the CalculationMode criteria. |
| AVERAGE.LAB | Returns actual collected values without interpolation. |
| AVERAGE.TREND | Returns the raw minimum and raw maximum value for each specified interval. Use the Trend sampling mode to maximize performance when retrieving data points for plotting. |

3. Calculation Mode - The CalculationMode column only applies if the SamplingMode is set to Calculated. It represents the type of calculation to perform on archive data. The following is supported calculation modes:

| |
|---|
| CALCULATION MODE |
| AVERAGE.CALCULATED.AVERAGE |
| AVERAGE.CALCULATED.COUNT |
| AVERAGE.CALCULATED.MAXIMUM |
| AVERAGE.CALCULATED.MINIMUM |
| AVERAGE.CALCULATED.STANDARDDEVIATION |
| AVERAGE.CALCULATED.TOTAL |
| AVERAGE.CALCULATED.RAWAVERAGE |
| AVERAGE.CALCULATED.RAWSTANDARDDEVIATION |
| AVERAGE.CALCULATED.RAWTOTAL |
| AVERAGE.CALCULATED.TIMEGOOD |

4. Default Settings:

This interface has default settings depending on the statistic selected.

By default **SAMPLINGMODE** is set to **LAB** for all statistics except INVENTORY and RAINGAUGE which use RAWBYTIME.

If **SAMPLINGMODE** is set to **CALCULATED**, then the following rule is set by default (but can be changed):

| | |
|-------------------------|---------------------------------|
| If STATISTIC is, | then CALCULATION MODE is |
| MINIMUM.Calculated | MINIMUM |
| MAXIMUM.Calculated | MAXIMUM |

| | |
|---|---------|
| COUNT.Calculated, CYCLE.Calculated, TIMELT.Calculated, TIMEGT.Calculated, and TIMEEQ.Calculated | COUNT |
| [All Others].Calculated | AVERAGE |

This means if you only specify **MINIMUM.CALCULATED** then the **CALCULATION MODE** will be set to **MINIMUM**.

[Reference ID: 12467]

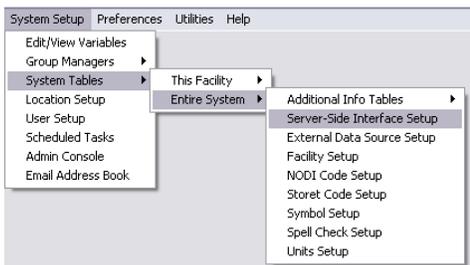
6.6 Using Interface Browser Q12429

Using the interface browser for **Hach WIMS Server-Side Interface to GE Proficy Historian**.

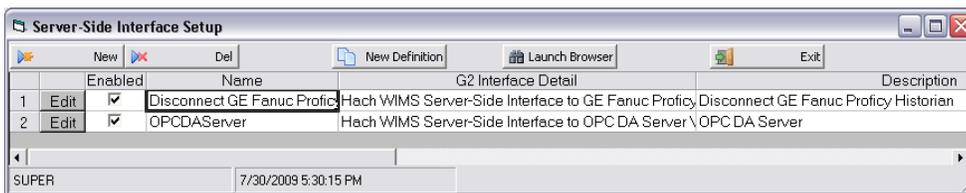
Step 1: While in the Hach WIMS client, select **Edit/View Variables** and click the **Interface** tab.

Step 2: The browser connection must be properly configured. In the Hach WIMS client:

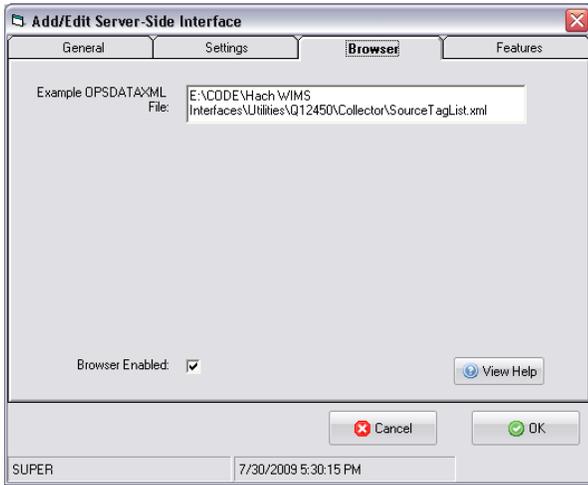
- Select **System Tables -> Entire System -> Server-Side Interface Setup**.



- Select the **Edit** button for the GE Proficy Historian entry that you want to enable the browser for.

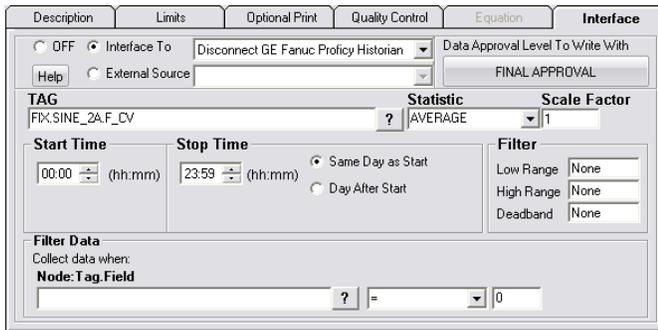


- Click on the **Browser** tab and enter the location of the exported tag list OPSDATAXML file generated in the Source Configuration section of the Interface. The browser will search this file for the available Tag Names. Make sure **Browser Enabled** is checked and click **OK** button.

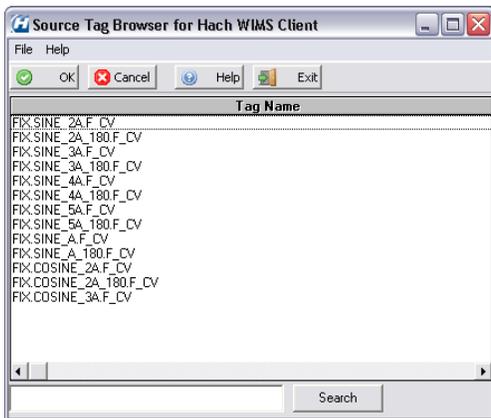


You are ready to view tags from the HMI. Click on **System Setup -> View/Edit Variables** and click on the **Interface** tab.

Click the button with a ? (question mark) on it as shown below:



The browser will load:



Select the appropriate Source Tag and click OK.

[Reference ID: 12461]