



Summarizing Data

In many applications, reports are required to show summarized calculations such as averages and maximums. In cases where the raw data is being logged to a historian, retrieving summaries is a straight-forward task. However, when there is only a real time server, this can be a problem.

XLReporter can be configured to monitor the real time values of the process, calculate aggregates (summaries) and then store the results to its internal database. The values in the database can then be used for reporting purposes.

There are 3 types of aggregate functions available, Profiles, Differences and Statistics.

Profiles

Profile functions provide information about the state changes of digital values.

They can calculate such things as the total number of ON/OFF states and the time period that each state was in effect.

This information is ideal for equipment utilization and downtime reports.

Differences

Difference functions provide metrics about analog values in the process which represent totalizers.

They calculate the mathematical difference between the previously collected value and the current value and scale the result, if desired.

As an example, suppose the process has a totalizer that represents the total gallons pumped and you need to know how much was pumped over the day. Set up a difference function to return the difference of yesterday's value and today's value.

Statistics

Statistic functions are provided to store metrics about analog values in the process.

Calculations such as minimum, maximum, average, total, variance, standard deviation and more are available.

This information is ideal for creating summary reports and performing analysis.

Configuring Aggregates

Aggregates are configured in the Aggregate Designer which is accessible from the Project Explorer. Here you will find a tab for each aggregate function.

Under each tab, you can specify all the settings pertaining to that specific aggregate function including the real time tag that is the source of the calculation.

Aggregates can be assigned to different groups so each set can operate at their own time frame.

Scheduling Aggregates

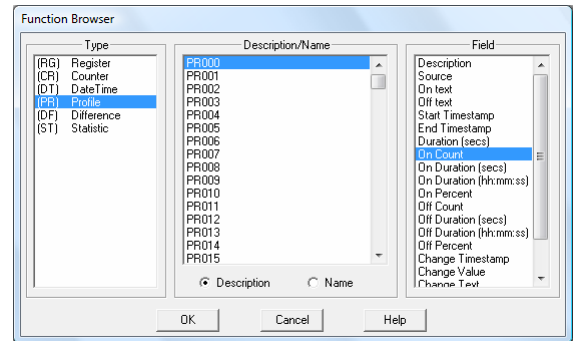
The second part of configuring aggregate functions is scheduling them to execute.

Each aggregate type needs 2 commands scheduled. The first command is an **Update**. This command goes out to the real time server and collects data and performs the calculations.

The second command is **Store**. This command stores the current calculated values to the database and resets the values for the next time period.

Reporting Aggregate Data

Once the values have been stored to the database, they are available for reporting. To include the data into a report, you need to configure Function connections from **XLReporter's** Connection Configurator.



Function Tag Browser

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