What to look for in Industrial Data Acquisition Software

In this internet age of readily available Data Acquisition software that is just a click away, can make the task of finding a good application quite difficult, after all, who has time to download and test each product they find?

In this article we put ourselves into the shoes of the OEM's and will ask ourselves what makes good Data Acquisition software, and what should we look for so that we can avoid having to download and try all of those products that are available online.

Standards: Data can come from, or be stored anywhere. With so many options available it is essential to choose a technology that is based on existing accepted industry standards. In the world of data-acquisition you begin by looking at OPC (http://www.opcfoundation.org/) technologies, which can acquire data from PLCs and other industrial sources. Once you have acquired the data you will then need to store it somewhere, preferably an industry-accepted database or text file. Avoid investing in proprietary technology.

Certified: In an ideal world, all software would simply "work" and "everything would work with everything". Unfortunately that's not the real world, which is why users tend to test software before they buy. Data acquisition products that are OPC compliant can also be certified, meaning that they have been officially tested by the OPC Foundation to ensure that they not only follow the rules, but are robust and correctly handle both trivial and critical problems alike. What does this mean to end-users? Simple, you can place a higher level of trust in your software.

Simple: Download, install, configure and go… That's the dream, but can also be the reality. Data acquisition is a simple concept, so why do some many products have such complicated configuration screens, or even require specialized training? Applications that can ask the end-user simple questions that allow it to then configure itself will reduce the need for self-studying or investing in expensive consultation and training, which will only increase productivity and simply allow you to "get the job done".

Diagnostics: When bad things happen, you need access to tools and logs that can identify problems fast. Time spent diagnosing and researching problems is costly, counter-productive, and take an emotional toll on those involved. Also look for software that has the ability to test configurations, as well as test connections to other systems and software.

Decoupling-configuration: While acquiring data, you may be forced to make changes to your configuration as your needs today could change tomorrow. Do you have spare equipment where you can replicate your environment? Most people do not, and your data acquisition software should not force this upon you. Look for software that allows you to tweak the configuration, test the configuration, while not affecting the normal data acquisition process that may be going on in the background.

Continued-operation: If your machine restarts during the night, is somebody going to be there to restart your Data acquisition software? Probably not! Software that can run in the background as a Windows Service can be configured to automatically start with the Operating System. Furthermore, on latest versions of Windows the Service Control Manager (SCM) can automatically detect and restart any failed services thus reducing the need for somebody to oversee the Data acquisition software.

William Goodman, of Molding International and Engineering, an injection molding and automation integrator company, recently found himself in need of a Data acquisition and logging solution, and had the following to say:

"*The one weakness we found was connecting our automation to a network database that allowed us to track data to be used as a problem solving tool. After extensive research we found OPC Servers perfectly capable of communicating with various PLCs, but were unable to log the data. We selected the OPC Data Logger from Software Toolbox, as it was based on the OPC standard and was OPC Self-Certified so we did not have to do a lot of testing prior to use. The OPC Data Logger was easy to use because of built-in wizards, and did not require any specialized training. The event logs and diagnostic tools built-in have allowed for easy troubleshooting and the service provided by the support department was exceptional.*"

When the right software solutions are chosen, OEM's can remain competitive by offering various integration capabilities from off-the-shelf products, while avoiding the need to create or use non-standard or complicated technology/platforms.