ProVue Overview

microcon Process Automation to Business Information

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microcon

Process Automation to Business Information

The supreme openness and flexibility of the microcon ProVue architecture makes it one of the most perfect user friendly software Distributed Control System solution applicable to any sector in the world of automation DCS.

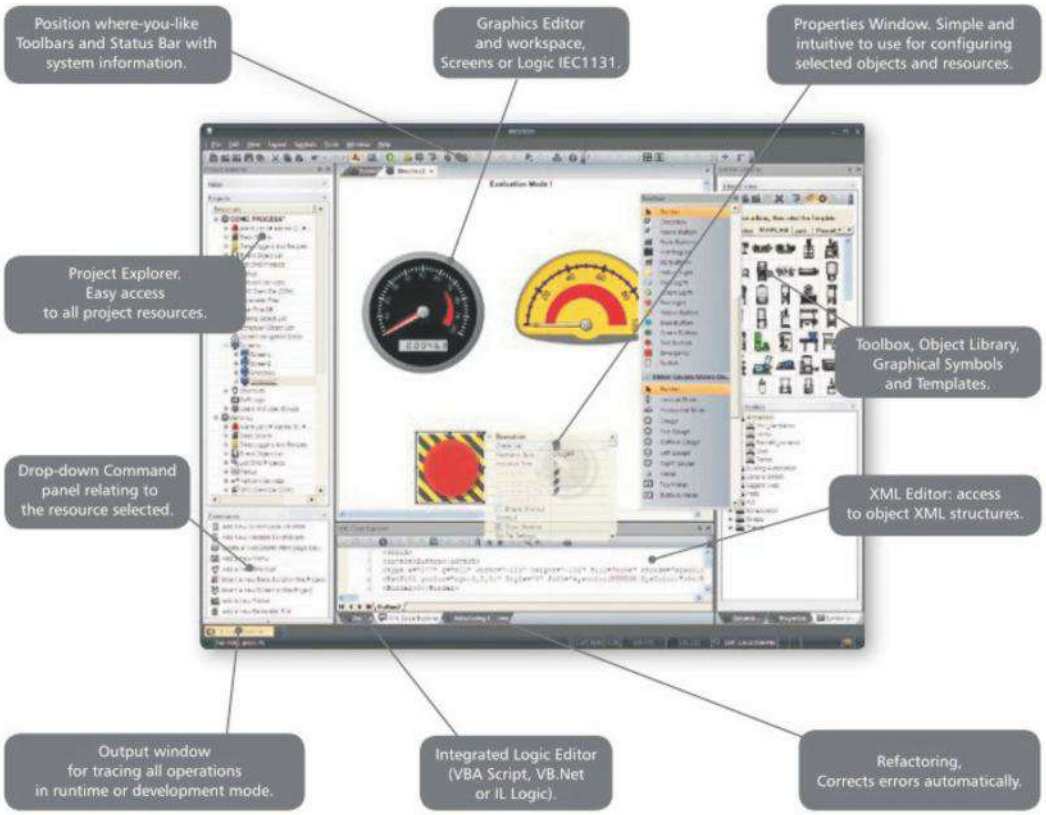
Guaranteeing steady non-stop production process information flow in real time on an enterprise- wide basis, from plant floor, facilities to business management levels, is the “real” solution for managing the production process of any modern industrial plant system. ProVue can make this happen by offering the best solution that no company can do without. An absolute ‘must have’ for maintaining, developing, supervisory control, operator interface and data acquisition software. The exclusive “XML- Inside” technology is the revolutionary innovation to the ProVue, offering an all-in-one development environment.

A rich supply of powerful, open, flexible, easy to maintain and very simple-to-use tools are provided to help the user save development time.

microcon revolutionizes and gives another meaning to the industrial supervision concept. Not only does ProVue provide you with a vast variety of tools for creating powerful visualisation and control projects within a few clicks, it also incorporates the most innovative technologies ever to enable your application to easily integrate with the entire world, both in distributing information towards enterprise information management systems (MES, ERP), and distributing information to local or remote clients across the web. Your system can be accessed safely from any part of the world and with any platform, because of the real “web-enabled” architecture, exploiting java security.

ProVue integration is now a reality: from I/O control to local HMI, from supervision to analysis systems for managing and optimising productivity, from systems to notify or page on-call duty personnel by remote control.

The Innovative ProVue Technology: Strengths



Scalability: ProVue is an all-in one software platform from Windows 2008 Server to Windows 7. Only one platform is all you'll ever need in your copany for micro applications in HMI terminals or/and medium and big applications for manufacturing plants.

Openness: ProVue is completely based on XML. Projects are simple XML files, which can be opened and edited with any other Editor. Fully open to integration and customisation with the world of Windows applications.

Projects can be grouped in hierarchical structures, distributed and shared.

Security: ProVue guarantees top data security. Projects, though based on XML, can be encrypted with 128 bit coding algorithms.

The platform is FDA 21 CFR Part 11 compliant for creating FDA ready applications with extreme ease. The user password manager guarantees safe access by level and/or area. The built-in Visual Source Safe guarantees work safeguards at all times.

Standards: ProVue is completely based on standard technologies to ensure that your investments are safeguarded. The XML, ODBC, OPC, VBA, SOAP, Web Services, TCP-IP and SQL technologies are all built-in to guarantee easy data access and transparency.

Performance: ProVue enhances performance by renewing its "exception-based" technology concept and graphics engine now based on SVG (Scalable Vectorial Graphics).

“Captivating” Visualization – Powerful Graphics, Application Intuitivity

Connectivity: ProVue has implemented a new generation of communication drivers with automatic tag importer, remote connectivity via modem, multi-station concept for point-to-point protocols, bridging concept for tele-services in remote I/Os and 3rd party PLCs. Not only do you get a free and included driver library, ProVue also provides you with total connectivity via OPC DA, using both the OPC DA and OPC XML DA technologies as Client and Server.

Very efficient networking. ProVue projects can be Server and Client indifferently. Client projects can be distributed and run locally on the client while residing on the central server.

To visualize production processes is paramount to any supervision system. The more transparent it becomes the more efficient factory management is. Unlike before, users explicitly demand a more realistic presentation of their plant. They want that immediate look, feel and touch experience to promote that extra sensory perception. They want to be there but not be there. Real-life, live and working plants on screen.

The real thing can only be achieved with ProVue, a supreme leader in this field, offering you a vast range of the most powerful graphics ever based technology (Scalable Vectorial Graphics).

Real object and symbol oriented programming; “point & click” even the most complex objects. Screens visualized in hierarchical tree structures with intuitive selecting. Symbols do not need ungrouping and regrouping in order to configure their components, no matter how complex they are. Dynamic property explorer and quick access to all properties, tags or symbol code.

Import-Export vectorial symbols to/from the most popular Windows™ vector formats. Supports all bitmap graphic files such as BMP, GIF, JPG, TIF, PNG and WMF and EMF files.

Toolbox containing prebuilt and multifunctional objects with accurately detailed graphics.

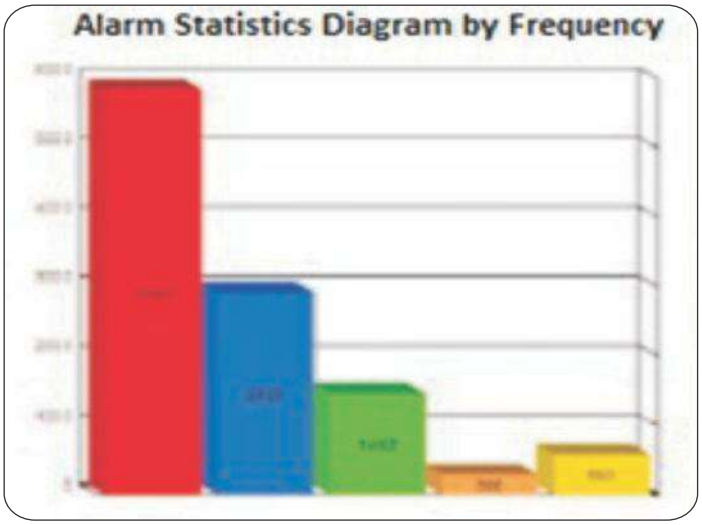
Analog viewer library integrated with eye-catching and realistic graphics. Powerful graphic animations, with 16 dynamic animation functions configurable in all object properties. Each object is extendable through the appropriate VBA rapped into API graphics.

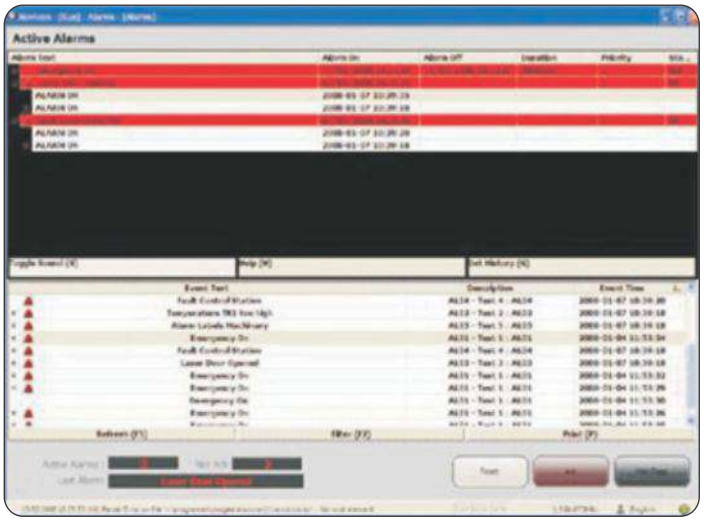
Complete set of functions, for zooming, grids, alignments, multiple distributions, layer order, tab order, multi-selection property settings and much more.

Library rich in pre-built symbol graphics, organized in a multitude of various categories, ready for immediate previewing and drag and dropping on screen.

Option to create your own symbols and new categories.

Alarms: Under Complete Control. Monitoring, Archiving, Notifying and Analysing: It's All There, Nothing Left Out.





The powerful ProVue alarm management guarantees maximum precision in managing events and provides users with a rich source of information consenting continuous and immediate feedback on how the plant is running, to improve on efficiency and reduce production downtimes. The alarms are managed for default according to the ISA S-18 normative, but are completely customizable and manageable as objects with numerous properties adaptable to every need. The activation thresholds, fixed or changeable, determine alarm activation statuses (ON, OFF, ACK and RST), displayed and managed as graphical objects in the Active Alarm window with numerous filter options (by time, area, priority and period). Includes option to link dynamic help and guidelines from external files (CHM, HTML, and PDF).

The alarms can be configured with PC or "Timestamp" tag value activation times.

The many properties allow you to set colours, alarm or message managements, speeching (text-to-speech), printing, command executions, and more.

The alarm history management (historical log) automatically records all events (alarms, driver or system events) in archive files in relational database tables using the powerful ODBC Manager or in text or XML files.

Data Archive

The purpose-built Historical Log window automatically stores and forwards data, which is displayed in the preferred order format (chronological, by type, by priority Order). The alarms support the "Template technology", which consents to parameterizing repetitive alarms, with tools and wizards to help you develop and configure much faster.

Alarm Dispatcher

Unmanned or remote plant systems must guarantee and relay information immediately to on-call duty staff to prevent prolonged production downtimes and delayed production deadlines. All project alarms are configurable for this situation type to notify users. The ProVue Alarm Dispatcher, notifies events, sends alarm alerts to staff using the voice technology (Text-To-Speech telephone notifications with voice synthesis), with SMS, E-Mail or by Fax. The supported MS Messenger is a 'must have' for plant systems connected in net 24/24 (local or web network).

Notifications are sent to assigned Users or User Groups. Messages can be sent according to customizable time schedules, calendar dates, work shifts, and on-call duty staff shifts.

Analysing, Filtering, Ordering by The Alarm Window and the Historical Log Window are tools for displaying active or filed alarms. They can be inserted as objects in any screen and configured like all other objects from the toolbox. Alarm viewer objects can be created with different symbol and template styles and added to the symbol libraries as a new object.

ProVue consents total alarm window and operativity configurability with direct commands or with custom commands. The display windows can be connected to network servers, allowing viewer objects to become "client" objects for displaying active network server alarms and/or their history. The alarm data columns can be configured to match the requirements they are needed for.

Active Alarms can be selected for immediate display of their history directly in the Alarm window to highlight all their occurrences.

This feature simplifies event analysis activities and improves productivity. All 'order by' and 'filter' options are provided to display information in the most transparent and intuitive way possible.

Programmed Maintenance and instant guidelines

ProVue simplifies programmed maintenance management by allowing the user to activate alarms not only with the associated variable's real variable value but also with its duration 'statistics' value. This makes it extremely simple to set activation thresholds in set-points relating to the variable's total time ON.

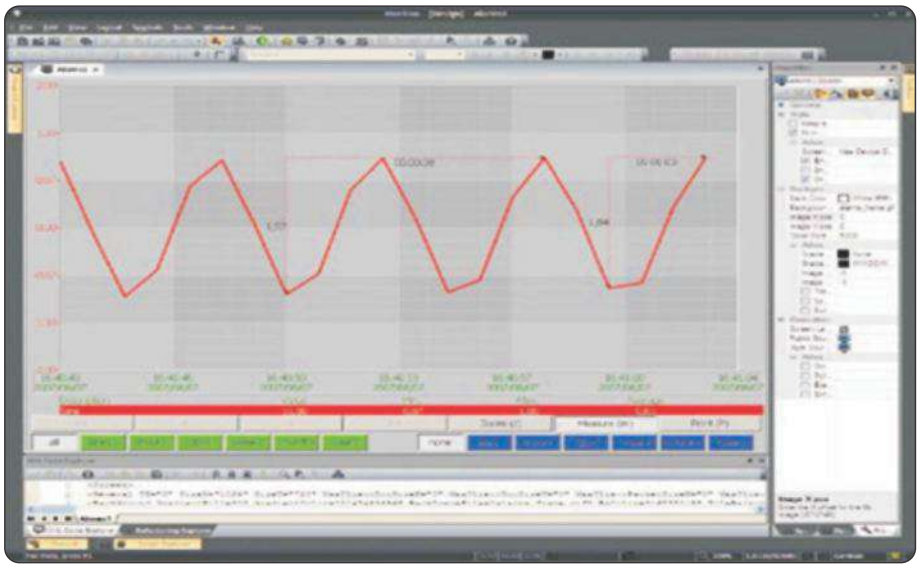
The system operator's work is made easier by being able to associate external files for activating the use of User friendly help files (HTML), movie files (.AVI), sound files (.WAV) or BMP files.

Production Downtime Statistical Analysis

Tools capable of statically analysing machine downtimes during production runtimes are crucial to factory production and maintenance managers.

The data analysis quickly singles out any critical points within the production process to allow plant system efficiency and productivity improvements. Your productivity cannot be improved without this information.

Trends and Data Analysis



Trends are tightly linked to the Data Loggers and are graphical objects predisposed for displaying curves relating to process data behaviour. These trends can be dynamical and historical (Run / Pause) and prove to be a sophisticated functionality for displaying values graphically and customizing pens and legends in many varieties. The Trends can be linked to Data Loggers directly and consent data displays by time range or other filter types, zoom, pen selections, logarithm scales. They can be shrunk to fit entirely in one screen, printed and much more to mention. They can be completely configured in runtime to become truly powerful Trend Template objects using the VBA functions.

The Data Analysis use is more thorough than the Trends and provides sophisticated graphical representations of historical data recorded by the Data Loggers. The Data Analysis object can quickly analyse data according to prefixed time ranges, different comparisons and overlapping curves. For instance, an analysis based on sample curves or analysis comparing different time ranges (i.e. comparing one year's values with the previous year), will measure at an instance by tracing lines between various points in the graphical data analysis image to show the value differences.

Recipes

The production recipes are object oriented and use the same recording techniques performed by Data Loggers.

The production recipes enable you to manage data archives containing working process parameters relating to manufactured products. Upon selecting the desired product, the parameter values relating to the plant's variables will be activated. Recipe management has been made extremely easier to handle in ProVue with objects and wizard technologies: simply create a "recipe" object, assign it the necessary variables and then just press the "wizard" command to automatically generate the recipe's display window graphics with user interface through which you can completely customize as required by setting its various properties (styles, colours, etc.).

Communicating in the fast lane safely at top speed is essential for any automation system. The supervision systems are meeting points of all process data. The crossroads of non- stop production information flow of enterprise-wide systems.

Communication is a strategic role, deeply rooted in ProVue, played out by tools, to make information flow quicker, smoother and more transparent than ever. ProVue also provides you with a rich library of I/O drivers, native, integrated and included free in the product.

Communication with control systems (PLC, CNC, Instrumentation, Fieldbus) has never been so quick to configure and so quick to perform. Helpful wizards are on hand to automatically import and configure project variables directly from the PLC, saving you more time and the risk of errors. The I/O Driver library supports all PLCs and systems found on the market today, and can be added to by third parties using a suited SDK.

OPC Technology

Along with the I/O Drivers, ProVue has fully integrated the OPC technology (OLE for Process Control) both in OPC Client and OPC Server modality for both DA (COM) and XML DA specifications. Connectivity to OPC Servers is guided and very simple, cutting configuration times by half with automatic tag creation in OPC Server items. ProVue is OPC Foundation certified where Progea is an active member.

Networking Supremacy

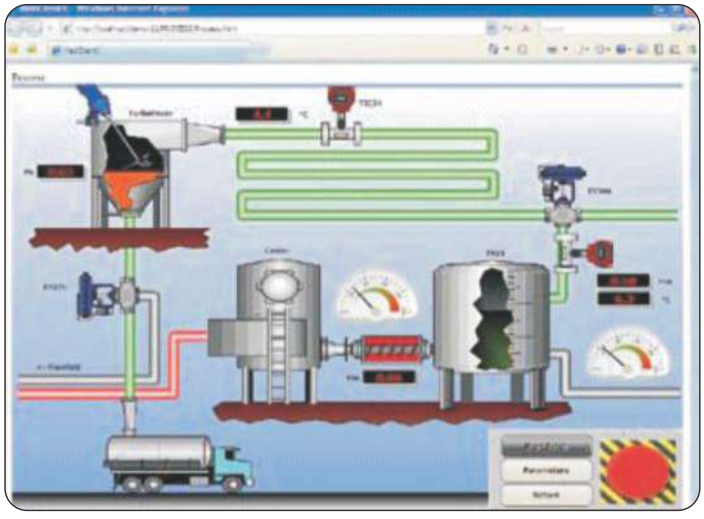
The Client/Server architecture is guaranteed by built-in functionalities that consent distribution of dynamic information and projects across networks. The ProVue networking technology, based on the Web Services and SOAP, is the most advanced around today. Information (tags) sharing between the ProVue stations happens upon double- clicking the client station.

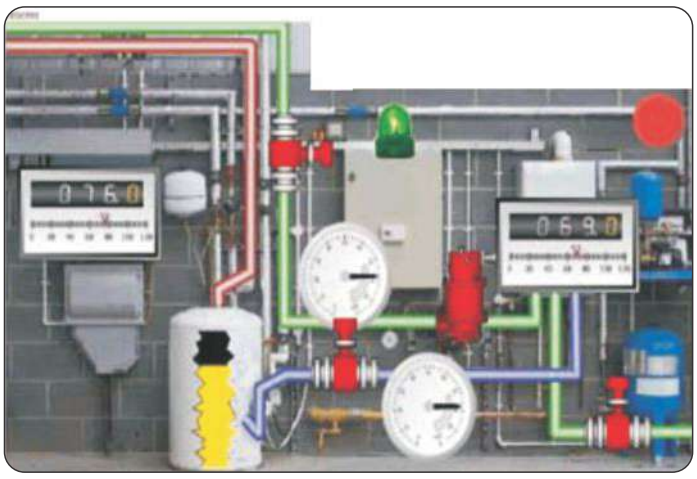
The Server stations can be based on Windows™ Vista/XP or Windows™ CE Windows indifferently. Communication in net is based on the TCP-IP transport for default and can be completely customized and adapted to any need imposed by user administrator networks, by simply changing the project's Network Server properties as required.

Real-time I/O ODBC Link

ProVue has a very important feature that consents to connectivity towards enterprise-wide information systems: each tag has a read-write connection property to an external relational DB.

All or part of the project's real-time DB can be shared in automatic mode and is transparent, allowing real-time information sharing of plant floor information with business managerial systems.





Powerful Graphics Account for Better Application Intuitivity

Production process visualization is paramount to any supervision system. The more transparent process visualization becomes, the more efficiently the factory is run.

Users are now looking to a more realistic presentation of their plant systems. Therefore graphics play a determining role in accomplishing this but it can be a time consuming task when developing projects. This is one of the areas where Microcon+ demonstrates its superiority in terms of powerful graphics features and saving time:

Vectorial Graphics Editor and SVG based technology (Scalable Vectorial Graphics) with anti-aliasing management.

Real object and symbol oriented programming, “point & click” even the most complex objects.

Dynamic Property Explorer for accessing all the symbol properties, variables and code.

Import-Export vectorial symbols to/from the most popular Windows™ vector formats.

Toolbox rich in functional graphical objects (buttons, switches, gauges, etc) pre-built with specially designed graphics.

Supports all bitmat graphics files such as BMP, GIF, JPG, TIF, PNG and WMF and EMF files. Supports color transparency.

Analog viewer library integrated with eye-catching and realistic graphics.

Powerful animation graphics, with 16 dynamic animation functions configurable in all object properties. Each object is extendable through the appropriate VBA rapped into API graphics.

Library rich in pre-built symbol graphics, organized in a multitude of various categories, ready for immediate previewing and drag and drop on screen. Option to create your own symbols and new categories.

Exclusive Power Templates© technology, for creating symbols with preset functions, simple animation associations or with powerful VBA script functions integrated. The Power Template technology makes it possible to auto-configure projects simply by inserting symbols on screens.

Auto-resizing to screen or window resolution for vectorial bitmap graphics (Raster). Auto-adaptation available in Web Client visualization as well.

Built-in support to multi-monitor systems. Possible to define which monitor screen is to be opened.

Graphical object XML structure inspection internally and by external programs and editors. Complex objects can therefore be edited through their properties in ‘text’ mode to speed up copy and paste or ‘find-replace’ operations.

Graphics Editor for managing menus (pop-up or bar menu) and assigning keyboard commands. Powerful drop-down menus can be created directly and visually.

Support to symbol heredity and alias technology.

Supports different Windows “Styles” and “Theme” technologies. Project and screen aspects can be changed according to their pre-assigned styles.

Built-in native objects for visualizing images transmitted from IP cameras and also in WinCE and WebClient.

The platform is FDA 21 CFR Part 11 compliant for creating FDA ready applications with extreme ease. The user password manager guarantees safe access by level and/or area. The built-in Visual Source Safe guarantees safeguarded work at all times.

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