Intelligence for oil & gas operations

OperateIT SCADAvantage™ is a unique field insight tool. It offers more than just a multi purpose SCADA software because it was built to expand the value of automation, drive life cycle costs down and compliment e-enterprise strategies. This web enabled information tool includes comprehensive upstream oil and gas applications, a data historian and analysis tools for field and plant optimization. SCADAvantage™ also allows for comprehensive server and communications redundancy.

SCADAvantage™ has fully integrated modules for oil and gas wells, plants, batteries, gathering systems, compressors, and test facilities; can stand-alone, be networked or scale from small to large applications without custom development. The goal of Industrial IT is to integrate automation systems, in real time, across your business. SCADAvantage™, as part of ABB’s upstream solution for oil and gas production automation, delivers on the promise of Industrial IT.
Modular applications

SCADAvantage™ is a result of several years of work with end user production teams. Their design focus: long term cost control, ease-of-use and tools to help engineers and operators improve the operating bottom line. SCADAvantage™’s modular architecture is based on open and non-proprietary standards. You get a proven, fit-for-purpose analysis with built-in flexibility for specific device requirements. SCADAvantage™’s plug-in applications allow fast straightforward system expansion without custom development. Use these optimization modules alone or as integrated applications:

- GAS Database – API 21.1 Audit Trail
- POC Dynacard
- POC Interrogation & History
- Compressor Performance Tracking
- Well Test Automation
- ESP/PCP Pump Control & Protection
- Automated Pig Launching
- T&C Production Automation
- Plunger Lift Control
- Nomination Control
- Alarm Management & Cry Out
Expandable for growth and change

SCADAvantage™'s architecture expands and reconfigures with your changing operations. Use it as a small, simple human-machine interface for plant control; expand it to optimize and monitor thousands of wells and special applications distributed over different servers and networks.

**Configuration examples:**
- Start with a simple interface like SCADAvantage™- Field.
- Tie in gas well measurement and monitoring and you have a SCADA system.
- Optimize with applications like pump off control, progressive cavity pumps, etc.
- Consolidate multiple production areas, batteries and plants to a control center with SCADAvantage™ Center.
- Add unlimited SCADAvantage™ Clients to give engineers, technicians, operators, marketers and accountants access.
- Outsource SCADA administration with SCADAvantage™ services and deliver data via the Internet.
- Integrate legacy hosts with SCADAvantage-Links™ for a cost controlled migration path plus unified screens and data at the control center.
SCADAvantage™
System software products

Proven benefits

Our case studies show efficient automation can drive operating costs down. SCADAvantage™’s power resides in a system architecture and design that focused on capturing automation value with the lowest possible cost. SCADAvantage™ reduces real time costs throughout the life of the installation in the following ways:

- Modular plug-in applications eliminate custom development costs and the need to call in experts to add wells and make routine changes. No surprises in future operating expenses.
- On screen analysis tools, queries and messages compliment alarms, real time and historical graphic trends and reports for managing production, injection, wells, batteries, satellites and plants.
- Self-configuring maps and smart screen templates mean field staff with basic training follows a few steps to add a well in 5 minutes. No development license needed.
- Compliance with Microsoft standards, which means fast, intuitive learning and lower support costs. Training can focus on optimizing production and gaining efficiency.
- A multi-functional, fit-for-purpose software that lets you mix field devices, protocols and facilities, oil well and gas well applications on the same hardware and software saves engineering, computer, licensing and training costs.
- An object-oriented point management system streamlines configuration and standardizes descriptions without forced naming conventions. You get the job done right, faster dealing with one-fifth to one-tenth the points a traditional system.
- Device inputs and outputs are combined and handled in one object with characteristics. Adding functionality and points doesn’t degrade the performance of hosts or multi-use low bandwidth networks.
- An open, non-proprietary system that can link islands of automation, integrate legacy systems and a variety of field devices saves time and money for companies facing reorganization, mergers and acquisitions.
- A scalable network efficient architecture allows you to consolidate operating centers thus saving money and time though more efficient and coordinated control, dispatching and purchasing of services.
− An unlimited number of users can access production data from multiple areas using low bandwidth and shared networks, standard phone lines and the Internet to keep communication costs low.
− A multi-level security system can conform to your corporate standard functions and maintain history on each user’s access to objects and attributes, data, displays, production areas and controls.
− SCADA Vantage™-Client software is automatically updated from a single network site without human intervention or special installation procedures. This Client Application Manager (CAM) feature minimizes IT support issues, time and costs.
− Engineers and analysts using one common source of data can work in real time with field and control center personnel to analyze and resolve problems faster. No faxing, no waiting, no telephone tag.

**Communication choices**

Communication infrastructure has been a costly SCADA component but technology is changing rapidly. SCADA Vantage™’s device interface allows a variety of devices and multiple protocols to be used on the same communication network. Plug-in protocol modules ensure maximum flexibility today and the future with various communication networks and connections such as:

− Internet and virtual private networks
− Licensed and spread spectrum radio
− Microwave and leased lines
− Cellular and cellular digital packet data (CDPD)
− LAN/WAN and satellite
SCADAvantage™
System software products

Network and computer efficient

SCADAvantage™ closes the information gaps between field and office workers. It is designed for high performance in efficiently consolidating real-time and historical field data from distributed hosts and making it accessible across your enterprise. A unique object-oriented, real-time database allows local polling hosts and database components to reside at different locations without database synchronization issues. Advanced push technology moves data between servers and user stations. Data push minimizes network traffic by eliminating continuous polling demands typical of old client server architectures. This report by exception between the server and the user station means only changed values update, and that means less traffic. SCADAvantage™ architecture enables hundreds of users trend, report, export and interface data from transparent servers without affecting host or network performance. The relational database characteristics of SCADAvantage™’s real time database support standard methods for configuration and sharing data with other corporate systems: Structured Query Language (SQL Editor), Open Database Connectivity (ODBC), and Object Linking and Embedding (OLE). SCADAvantage™ automatically:

- Conserves computer memory and disk drive activity by holding real time data in memory for rapid access and processing speed.
- Compresses and consolidates data from host-to-server and server-to-server, either for all or only selected points, so the amount of on-line history is limited only by disk space.
- Reduces the sample frequency and triggers alarm messages whenever instrument problems generate huge volumes of variable readings.
- Receives and supplies data at exceptional speed even on low speed dial-up lines and across local area or virtual private networks and the Internet.
**SCADAvenue-Links™**

SCADAvenue-Links™ software communicates with another SCADA host as if it is just another device. It gives you flexible options for integrating and migrating your existing SCADA infrastructure and more up-to-date automation strategies. Freeze and reduce maintenance costs on old software while gaining unlimited, lower cost expansion using SCADAvenue™. Integrate older field devices with proprietary protocols along with new technologies, communications methods. You gain a single source of data with a common look and feel across centralized operations and area offices.

Reconfigure or adding new points once only as all commands, alarms and configuration changes pass transparently between the SCADAvenue™ and host systems such as:

- InTouch by Wonderware
- Fix by Intellution
- OASyS by Metso Automation
- Factory Link by US Data Corporation

SCADAvenue-Links™ provides the data consolidation platform to allow a corporate data server architecture without costly replacement of existing field SCADA systems.
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