PRISM™ SCADA

ACS

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The Precision Real-Time Information System Manager™ (PRISM) is a proven and highly-capable SCADA system solution that also serves as a common real-time automation platform, supporting the additions of DMS, EMS and OMS functionality. PRISM has virtually become a de-facto industry standard, operating in over 200 electric utilities worldwide.

Designed and optimized specifically for utility networks, PRISM is a reliable and secure system, taking advantage of the stability and security of Linux for mission-critical operational environments. Now in its eleventh major release, PRISM is the result of over 40 years of expertise serving the electric utility industry. Based on a high-performance, real-time data engine, the system is completely scalable–by using intelligent distributed processing, you can effectively grow your system with the addition of dedicated application processors or front end communication servers–without rebuilding the system from the ground up.

PRISM offers virtually unlimited expansion in terms of station addresses and data points; there are systems in the field operating with database sizes in the millions of real-time points.

You need a system that is easy to deploy, offers flexibility in the communications infrastructure, and supports all of the available industry protocols. PRISM offers all this and more. The PRISM Communications Interface (PCI) supports many serial channels, and available DNPnet delivers efficient IP-based communication with virtually any RTU or IED in the field today. Advanced Control Systems™ (ACS™) has the largest protocol library available in the industry, and plays a key role in the advancement of the DNP protocol and development of the standards for DNP over IP.

PRISM Advantages

- Solid foundation for a true advanced smart grid system
- Real-time decision-making capability; improved system situational awareness
- Fully integrated solution from the enterprise to the pole top
- Scalable, modular solutions to meet the needs of utilities of all sizes
- Virtually unlimited system expansion and database capacity
- Enhanced system security enabling compliance with NERC CIP standards
- Support for virtualized configurations

- Flexible, high performance Graphical Operator Interface
- Open system architecture for seamless integration with 3rd party applications and hardware
- Heterogeneous environment of Linux® and MS Windows® processing nodes
- Seamless integration with virtually any RTU or IED
- Customized report scheduling and data visualization
- Field proven high system performance in stress and storm situations
- Professional services by a dedicated support staff and training organization
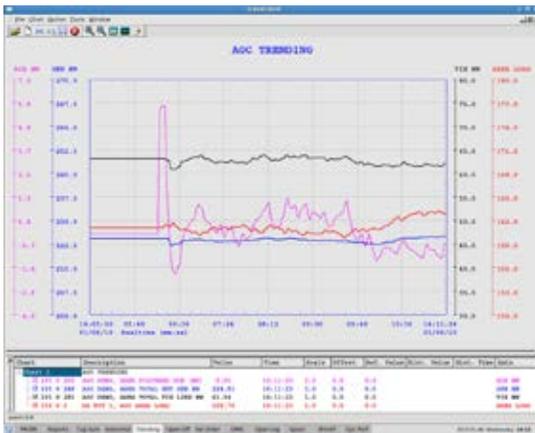
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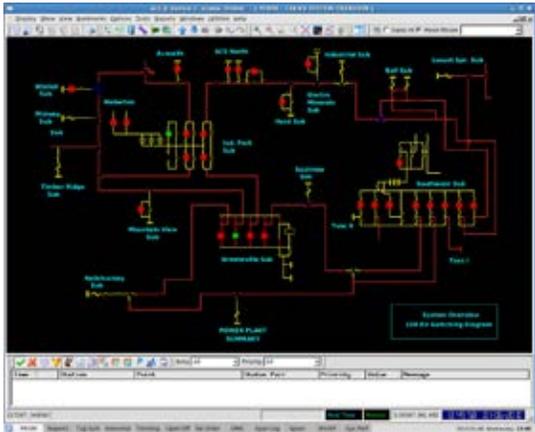
System overview display
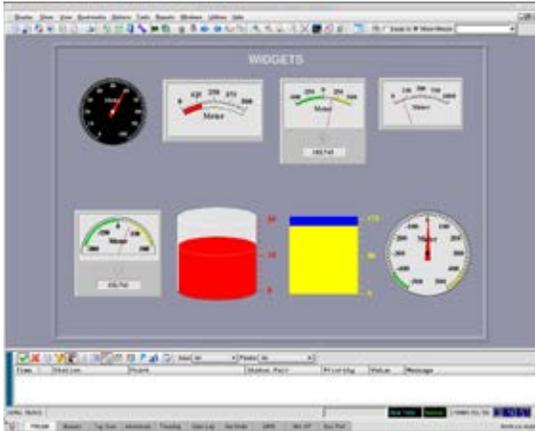
Extensive library of display widgets

Trending

SCADA components

The main features of PRISM SCADA include:

- Intuitive, powerful Graphical Operator Interface
- Full-featured graphical display editor
- Visual Database Editor
- Highly-configurable knowledge-based Alarm Processing
- Real-time and Historical Trending System
- Historical/Archival Data Model
- PRISM Communications Interface
- Application Programming Interface for customer applications
- DNPnet (DNP/IP communications)
- ePRISM™ Browser-based Interface

Smart Grid Foundation

Because we have developed all of our advanced applications for Distribution Management, Energy Management and Outage Management around the same high-performance, real-time platform, the PRISM SCADA system provides a ready foundation to expand your system, whether that time comes next year or ten years from now. PRISM offers a unified network topology model that is used by SCADA, as well as these advanced applications, meaning one common source model can support advanced switching, outage and optimization functions.

Leveraging Smart Grid technology to its fullest also means being able to handle ever-increasing volumes of real-time data effectively, and making that data available quickly and efficiently to utility personnel and to other critical applications. The PRISM system is an open and scalable platform that relies on a modular high-performance real-time database architecture and industry standard interfaces to turn the volumes of data into useful information.

Software

Our PRISM applications platform is designed for electric utility information systems. Standard tools provided with PRISM include:

- spreadsheet-based report writer
- full-featured, user-configurable tagging
- real-time tags and event summaries
- easy-to-search event archive, with years of history
- RTU test mode
- Sequence of Events
- Areas of Responsibility

PRISM integrates dynamic objects with vector graphics, bitmap images, and maps, giving you complete control of your system picture. The powerful operator interface supports fast pan and

zoom functions, with automatic declutter. PRISM supports up to 64 layers that may be independently controlled for display, and up to 256 declutter levels for each element displayed.

The Display Editor, Database Editor and Command Interpreter make it easy for you to keep your system current. These powerful tools provide the capability to develop sophisticated, multi-layer, interactive displays and let you customize the PRISM view or operating mode without restarting the system.

You define the alarm message colors, audible alarms and voice messages. Alarm messages can be directly addressed from the main operator window and can be acknowledged on one-line displays. Using knowledge-based parameters, alarms can be generated or suppressed on a need-to-know basis. All events, alarms included, are logged and recorded.
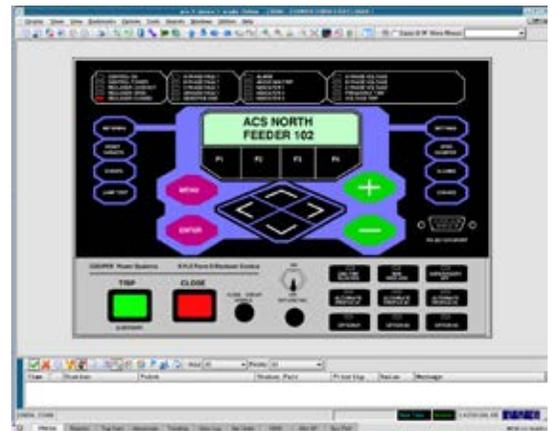

IED template

Database reporting and review

The PRISM real-time database delivers robust, reliable and flexible features that help you work smarter. With its efficient reporting tools, you can turn mountains of raw data into valuable information. You can customize the presentation of real-time and historical data to anticipate, prevent, plan and monitor the performance of your network.

Setting up and using the database is easy. Templates provide interfaces to status and telemetry information, control files and communication files. With the historic data collection function, you can customize the way real-time data is periodically assembled into historical files for subsequent analysis and report generation.

A built-in report generator provides a spreadsheet interface to facilitate event processing and reporting, and saves countless hours in post-fault/system disturbance analysis.
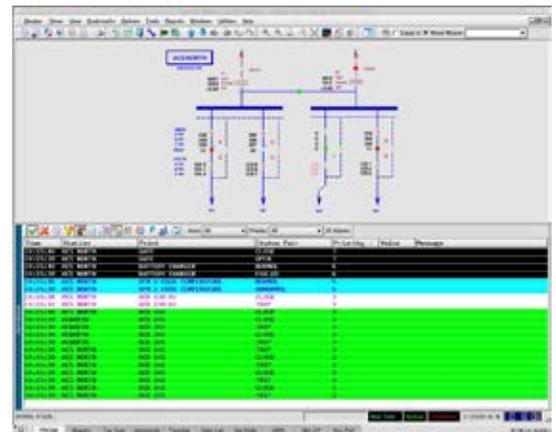

Knowledge-based alarm processing

Scalability

PRISM features a modular, open architecture that lets you expand your SCADA system logically, confidently and painlessly, as your needs grow. You can add DMS, OMS or EMS capabilities at any time. The PRISM platform also supports scalable client-based and client/server distributed architectures with distributed nodes, meaning that critical processes can be served by dedicated servers or workstations to keep the system running at peak performance. This also facilitates system upgrades and expansion with little if any downtime, as well as physically separate disaster recovery solutions.

In addition to typical SCADA enhancements, we offer the most comprehensive array of advanced distribution applications in the industry, as well as solutions for web-based reporting and control.

Optional hardware to enhance the functionality and security of your system is available, including firewall appliances, 2-factor secure VPN access and multi-level redundancy for maximum system availability.
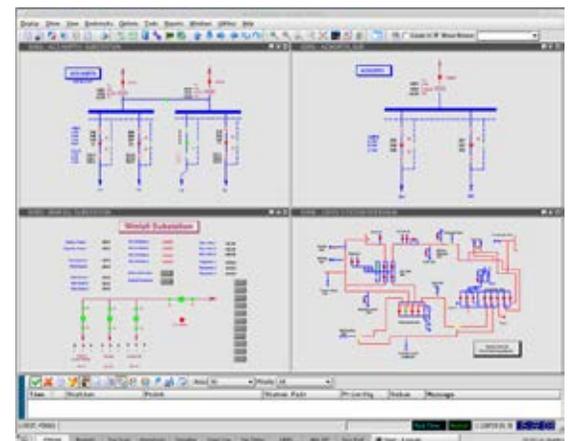
PRISM SCADA

Interoperability

The PRISM system supports scalable client-based and client/server distributed architectures, and may be readily integrated with routers, hubs, switches and firewalls from vendors such as Hewlett-Packard, Dell and Cisco Systems. Standard gigabit Ethernet networking is supported. As one of the authors of the standard, we fully support DNP3 over TCP/IP.

Other protocols are easily accommodated. Visit our web site (www.acspower.com) to see the most recent list of supported master, remote terminal unit (RTU) and intelligent electronic device (IED) protocols.

PRISM also enables you to access, integrate and utilize real-time information from 3rd-party applications to improve decision making and operational efficiency. It supports industry-standard system interfaces such as MultiSpeak® and TASE.2 (ICCP) and OPC, enabling integration with other utility systems such as OMS, AMI and others.

Security

System integrity and security in the utility operations environment is more critical today than ever. PRISM provides for secure operation through a number of features, including areas of responsibility and user authentication controls. The system supports up to 64 areas of responsibility that can be distributed based on any number of user-defined attributes, providing granular control over what individual users may view or access.

ACS also addresses system security through the application of industry best practices, including NERC CIP and NIST cyber-security guidelines. The core PRISM system has been successfully audited by a 3rd-party according to NIST SP800-82. Cybersecurity is also enhanced through:

- Secure Shell
- Disabling unused ports and services
- Hardened user and password authentication/aging
- Auto logout
- Available 2-factor authentication for system access
- Use of "de-militarized zone" (DMZ) architecture for enterprise application access

Service and support

Customer support is the keystone of ACS' offering. A staff of knowledgeable administrators and degreed engineers allows us to offer superior service–including optional 24x7 support. We can assist in the implementation of your system to the level you require, including system planning, display design, database creation and mapping, and point-to-point checkout. We can help you with modeling, disaster recovery plans and on-site engineering and analysis, and we can provide full system administration services if you require them.

ACS offers a full schedule of training classes for system and database administrators, field technicians, operators/dispatchers, and management. We can educate you in PRISM system operation, relational database maintenance and management, substation controllers and more. We can also work with you to schedule on-site training. Finally, we offer subscription services that cover upgrades, hardware and software maintenance, including our Long Term Support Agreement (LTSA) program that guarantees ongoing priority support with bundled engineering services and other value added features.

Your new SCADA system is a long term investment that will be the heart of your network control and automation for many years. It is essential that you choose the right partner that provides the most advanced technology, dedicated support, and field-proven experience that can provide for your current as well as future needs.

With PRISM SCADA you can rest assured that your system will grow with you and that your technology investment is protected for the long term.

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