Next generation interface tools for SCADA functionalities

Experion SCADA is the next generation of our popular Experion Process Knowledge Solution (Experion® PKS) user interface package. This is the most innovative and user friendly SCADA created which offers the features and functions that address the specific demands of electrical utility & substation automation applications, such as full SCADA functionality, industry standard communications, and enhanced alarm management.

**Integrated Substation Specific Functionality**
The enhanced performance and usability of Experion SCADA differentiate this substation automation workstation from other generic offerings. It includes:

- Sophisticated data handling thanks to SQL Server® 8.0 and real-time database engine
- Genuine Windows interface and “Power Tools” for fast and easy configuration
- Advanced alarm management offering superior filtering, sorting, stacking and organizing
- Wide array of trend displays including quick trends and XY plots
- Redundant server option for smooth and transparent fail over
- Full integration of data into the utility enterprise, including plant archives
- Enhanced security featuring access controls and Secure Socket Layer encryption

**SCADA Functions**

**Ease of Configuration**
The Experion SCADA platform incorporates a streamlined database and a true 64 bit Windows® look and feel with familiar features such as “cut/paste” and “drag/drop” - making it quick to configure. You can also carry out targeted updates on the fly using the on-line configuration facility, such as edit graphics linked to existing database points.

A practical suite of Power Tools is supplied with every Experion SCADA:

1. Full featured graphics editor offers extended functionality, including importing Windows® bitmaps
2. Experion SCADA provides an intuitive and intelligent Windows® Explorer type environment to create, configure and duplicate database points and devices.
Server Redundancy
For applications requiring elevated levels of system reliability and availability, redundancy is an important option. Implementing redundant Experion servers will maintain system operation with minimal impact during a computer failure. High-speed communications between servers ensure data integrity and synchronism. In true client/server architecture, the redundant Experion servers are completely transparent to the viewer. In the event that the primary server fails, the secondary server takes over control; viewers attached to the system find the transition “Bumpless”.

Dynamic Trending Displays
Experion SCADA resolves the complexity of displaying multiple trends by introducing dynamic, preconfigured displays that are more flexible. These innovative trending displays are easy-to-use and permit:

- Multiple vertical axes
- Data of different intervals and duration
- Choice of pen colors, chart colors, gridlines and axes scaling

And with the XY Plots you can visually present values in relation to each other, for example, real data against calculated data, or elements such as power against temperature.

Engineering Solution
Quick Builder is used to configure SCADA points. Quick Builder allows users to configure points, communication links to controllers/RTUs, stations and printers. Quick Builder leverages a relational database engine to provide greater productivity through capabilities such as filtering user views of the database, multipoint edit facilities and the intuitive Windows style interface. Other features that the relational database provide are the user-defined fields that can be used for termination schedules, wire numbers, etc., and a standard set of reports.

Additions and modifications to the Experion PKS database can be made while the system is on-line.

Experion at a Glance
Core SCADA capabilities
- Real-time display
- Real-time data collection and data management
- Supervisory control
- Alarm and event annunciation, display and management
- Historical data collection & storage
- Real-time and historical trending
- Reporting
- User-based security
- On-line configuration
- Object-oriented graphics
- Integration through dynamic SQL interface
- Redundant server/automatic failover configurations
- LAN, WAN and internet based client options
- View, operate and configure workstation options
- On-line and context sensitive help

Communications
- Communications to RTUs, PLCs, IEDs and other I/O devices via both LAN and serial pathways including radio
- Full support for OPC communications
- Seamless integration of multiple Experion system over DSA patented technology of Honeywell

Display & Graphics
- 1, 2, 3 or 4 monitor’s per client workstation
- Object oriented graphics
- Pan, zoom, declutter
- Fully configurable Internet Explorer like menu system
- Right-click menu system
- Graphic primitives: rectangle; oval; chord; polygon; pie; arc; (poly) line

Fig 2: IED Communication Architecture
• Chart: Configurable for multi-pen, left/right scroll, styles, Colors, axis, labels, legends, alarm limits
• Text: Full font range, sizes and styles

Control Features
• Device specific control dialogs
• Select before operate controls
• Configurable second check before control
• Control timeout
• Simultaneous control lockout
• Control fail alarm
• Control Tagging (Control Locking)
• Information tagging

Standards/ Tools
• Embedded Visual Basic for Applications (VBA)
• ActiveX Control support with Secure Containment™
• OLE for Process Control (OPC) support
• SQL; ODBC; COM; DCOM
• RDBMS query & display

Architecture
• Client-server architecture
• Multiple LAN and/or WAN clients
• Runtime and/or development servers and/ or clients
• Redundant configurations with automatic failover

Experion IEC61850 Communication

The IEC 61850 communication driver is a software interface that resides in the Experion® PKS server and provides SCADA communication and data exchange with Remote Terminal Units/ Protection Relays using standard IEC 61850 protocol. The information collected through the IEC 61850 interfaces is available to Experion SCADA for further analysis and decision.
Key Benefits of Experion SCADA

- **Open Access of real time data** of selecting best in class devices across manufacturers; high speed, high reliability redundant TCP communications, significantly reducing engineering, installation and cost. Supported by IEC 61850 Edition 1 & Edition 2.

- **A more sophisticated data visualization, analytics and processing** capability with the Experion HMI. Better visualization allows the system to become a “smart grid” to help customers make better decisions to optimize their power system.

- IED History Backfilling to prevent any loss of Data

- Supports integration of 1000 or more devices over IEC 61850 through DC over Honeywell patented DSA technology

- Open integration tools and systems
  - Support third party DCS/ Honeywell Experion PKS through OPC
  - Seamless Integration of Multiple Experion System over DSA patented technology of Honeywell

- IEC 61850 client is KEMA Certified

- Auto generation of single-line diagram graphics, from substation specification description and substation configuration description

- Experion® PKS SCADA supports redundant communication on the station bus according to the IEC 62439 standard. The solution utilizes the IEC 62439-3 standardized parallel redundancy protocol (PRP) and high seamless redundancy (HSR is part of Experion R440 release). PRP & HSR improves fault tolerance and communication system reliability.

- Asset management, point detail display & faceplates for electrical systems.

For More Information
Learn more about how Honeywell’s Experion for Electrical SCADA, visit our website [www.honeywellprocess.com](http://www.honeywellprocess.com) or contact your Honeywell account manager.

Honeywell Process Solutions
Honeywell
1250 West Sam Houston Parkway South
Houston, TX 77042

Honeywell House, Arlington Business Park
Bracknell, Berkshire, England RG12 1EB UK

Shanghai City Centre, 100 Junyi Road
Shanghai, China 200051

[www.honeywellprocess.com](http://www.honeywellprocess.com)