



IEC 61850 Client from GE Digital

Standard electrical substation connectivity that lowers total cost of ownership and complexity

Core set of IEC 61850 client capabilities for HMI/SCADA operations

The IEC 61850 Client from GE Digital provides an object-oriented model that enables powerful substation data and configuration connections to your devices for local substation and/or centralized level control, data acquisition, reporting, and visualization applications.

Based on the Driver Server from GE Digital, the IEC 61850 Client follows the standards for the design of electrical substation automation. IEC 61850 is part of the International Electrotechnical Commission's (IEC) Technical Committee 57 (TC57) reference architecture for electric power systems.

The IEC 61850 consists of a set of services for substation protection and control. It is a client/server system where the IED (Intelligent Electronic Devices) are the servers and the higher level systems (HMI, etc.) are the clients. IEDs are self-describing, which makes the configuration easier.

Outcomes

- Time savings with fast and easy device communication and application development
- Lower total cost of ownership
- Increased consistency and information quality
- Reduced time to solution due to ease of configuration
- Reduced Risk: time-stamped data from the device, secure control operations, results to quality and status bits in the SCADA
- High Availability solution at the HMI/SCADA and device communications level
- Reduced Maintenance Costs

01 Reduced costs for configuration and maintenance

The IEC 61850 Client allows for interoperability of devices from different vendors, a key advantage to users of substation automation devices that enables reduced costs for configuration and maintenance. It is critical as multiple protocols exist for substation automation, which include many proprietary protocols with custom communication links.

The IEC 61850 Client leverages modern computer and networking technology to maximize reliability and performance while minimizing design, installation, and commissioning costs; traditional substation communications can only utilize low bandwidth serial-based RTU protocols.

In addition, the IEC 61850-based models are separately defined and controlled from the protocols so future networking technology can be adopted when available without breaking the model and forcing reconfiguration of the applications.

02 Native interfaces speed up configuration

There are two options for connected applications over the TCP/IP transport profile: native CIMPLICITY and OPC DA.

The native CIMPLICITY client capabilities deliver automatic HMI/SCADA layer configuration, full dataset communications, file retrieval, data model browsing, sourced time stamps and SCL file import. The OPC DA interface delivers the ability to read and write data values from the connected substations.



03 Reduced time to solution & value

The IEC 61850 Client delivers enhanced abilities and goes beyond being a client connectivity solution for data collection. It integrates with the 61850 standard device and object models that automatically assign tag names in a power system context to the HMI/SCADA application.



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Features

- Core set of IEC 61850 client capabilities for HMI/SCADA operation
- File retrieval from IEC 61850 devices
- IEC 61850 Data Model browsing
- SCL file import
- Device Sourced Time stamps and data quality
- Native support for CIMPLICITY
- Support for data sets with unsolicited reporting
- Full support for all 61850 Control operations
- OPC-DA interface for other GE Digital modules and/or third-party applications

Dataset communications

- Support for connecting to existing datasets defined on 61850 server devices (IEDs)
- Support for client side defined datasets
- Unsolicited dataset communications using buffered (BRCB) and un-buffered (URCB) report control blocks
- Polled dataset communications
- Import of datasets from SCL file types

61850 Data Model Support

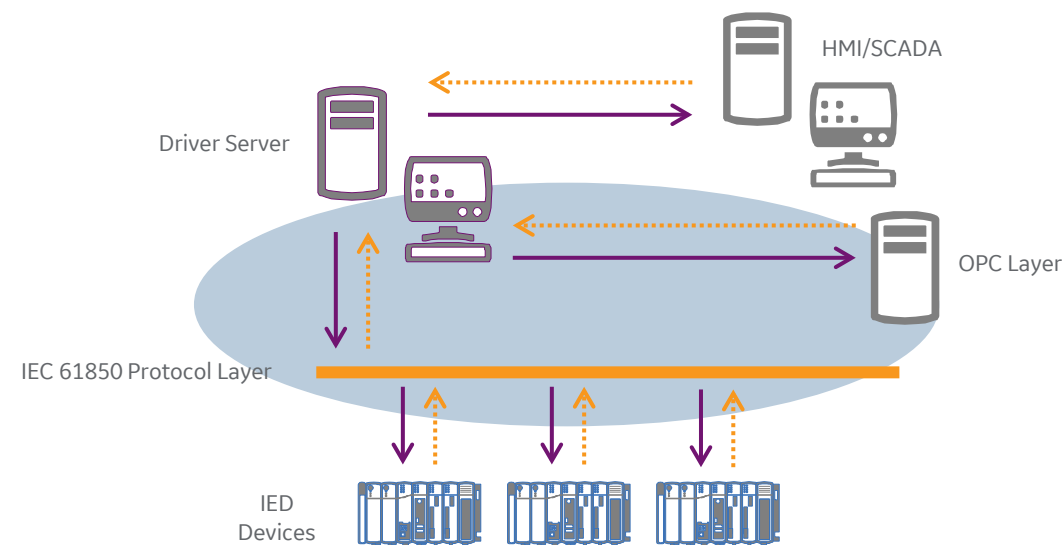
- Browsing of IEC 61850 Data model on 61850 Server devices (IEDs)
- File retrieval from 61850 Server Devices (e.g. COMTRADE files)
- Ability to combine and return quality information and control operation results in one operation to user bits (Native only)
- 61850 system variables
- Buffer Overflow detection
- Identity
- Status

Control operations

- Support for all Control Operation security models.
- Status Only
- Direct Operation & Select Before Operate (SBO)
- Direct Enhanced
- Select Before Operate Enhanced (SBO Enhanced)

Driver Server Capabilities

- Extensive system and statistic variables from communication status to optimization.
- Device sourced time stamps and quality.
- Cable redundancy support.
- Secondary redundant server setup that maintains unbroken communication with the device.



Lower your total cost of ownership with a single source of configuration at the device level

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Services

In the world of Industrial Internet of Things (IIoT), organizations are able to optimize productivity, reduce costs, and achieve Operational Excellence. While this is an exciting time for opportunity and growth, it can also bring on new challenges, questions, and uncertainty. No matter where you are on your IIoT journey, GE Digital has the right services offering for you.

Advisory Services We can help you plan and start your IIoT journey in a way that aligns to your specific business outcomes.

Managed Services We can help you maintain your critical machines from one of our remote locations around the world using model-based predictive analytic technology.

Implementation Services Our experienced global Automation partners can implement a collaborative, multi-generational program that marries your existing investments to the right enhancements and technology.

Education Services We specialize in education services to ensure that you're leveraging our solutions to the fullest extent with our training and certificate programs.

Acceleration Plans Let us help by ensuring that your business continues to operate at its highest efficiency, all while mitigating risks to your investments.

Security Services Our solutions provide industrial-grade security for a wide range of OT network and application topologies.

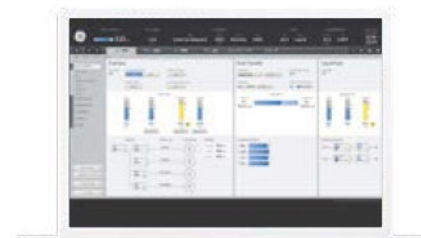
Related Products

GE Digital's Proficy suite helps you precisely monitor, control, and visualize every aspect of your operations, enabling operators to make the best decisions faster.



iFIX

Gain visibility into your operations and secure agility for smarter decision making that drives results.



CIMPLICITY

Drive real-time visibility for smart operators with true client-server based visualization and control.



Proficy Operations Hub

A centralized environment for aggregating and visualizing contextual and situational information for industrial applications – supporting rapid application development & rich displays for faster response.

Continue your Digital Transformation journey

Transforming your business requires foundational innovations that lay the groundwork for future success. It requires connecting assets and processes securely to drive operational efficiencies, reduce unplanned downtime and improve performance.

PREDIX

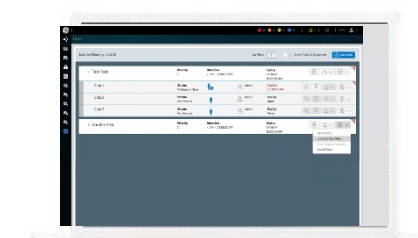


Predix

Innovate and transform your business with the cloud-based operating system for the Industrial Internet, purpose-built for industry.

Proficy Plant Applications

Maximize overall equipment effectiveness (OEE), improve production scheduling, and ensure product quality by leveraging real time production data



Proficy Workflow

Guide operators with dynamic, interactive electronic work instructions and eSOPs for more consistent operations and optimized processes.

About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.

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