

IEC 61850 CLIENT

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 Vernova 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 Vernova, 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 Vernova 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

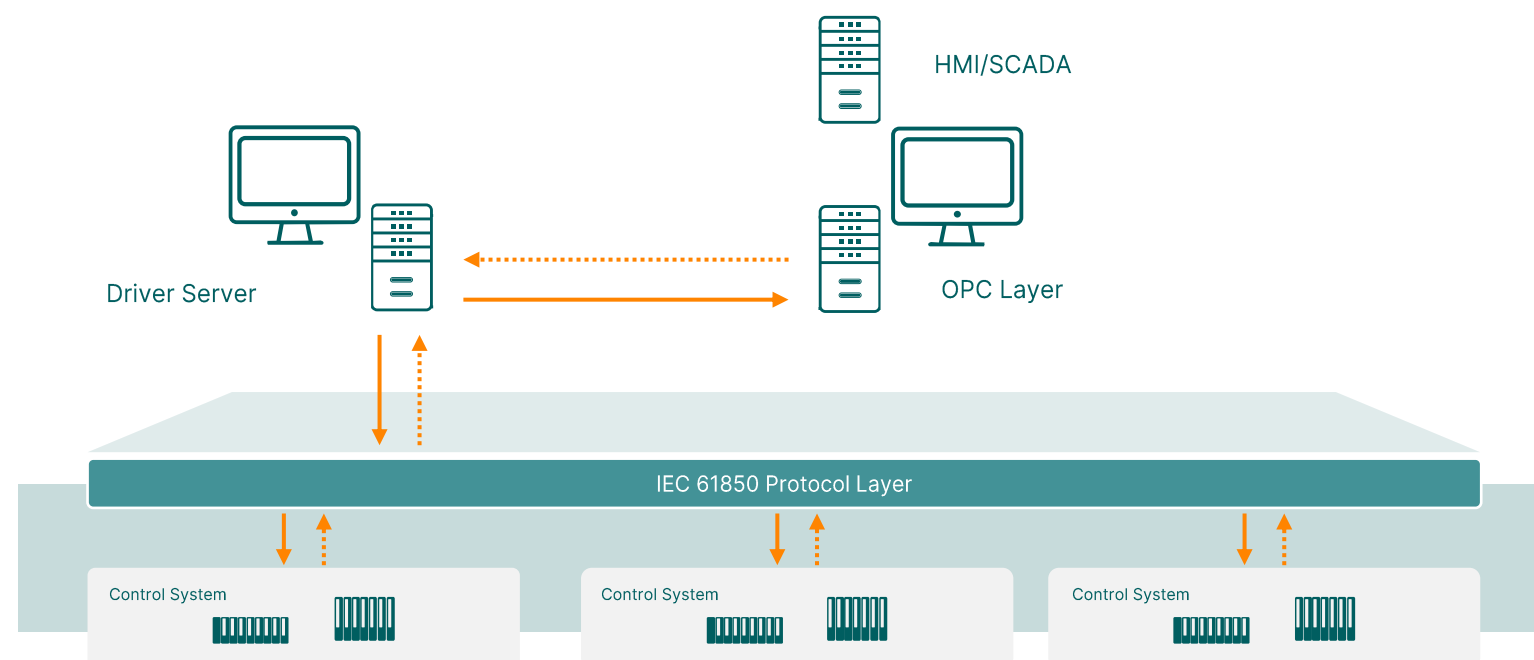
- Browsing of IEC 61850 Data model on 61850 Server devices (IEDs)
- File retrieval from 61850 Server Devices (e.g. COMTRADE files)
- Ability to combine and return quality information and control operation results in one operation to user bits (Native only)
- 61850 system variables
- Buffer Overflow detection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



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

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