HMI/SCADA with iPower from GE Digital

Electric utility SCADA made easy

Developed for electric utilities, including rural cooperatives, municipal authorities, and independent distribution utilities, HMI/SCADA with iPower from GE Digital helps improve utilities operations globally.

To help electric utilities of all sizes quickly and easily install and configure SCADA capabilities, GE Digital offers both HMI/SCADA solutions, iFIX and CIMPLICITY, with iPower—a powerful software solution designed for electricity control room operations. iPower provides real-time data collection, database management, dynamic data display, and secure operator supervisory control. As a result, you can achieve safer operations and efficient network management.

iPower is an open, standards-based SCADA solution that's easy to use and easy to own. It is also scalable from substation automation systems to complex computer networks in larger utility control rooms. With its intuitive operations and simplified maintenance, GE Digital's HMI/SCADA with iPower enables you to focus on core operational tasks for a sustainable advantage.

"iPower offers full-featured, safe, reliable, and affordable SCADA suitable for distribution cooperatives of any size."

Randy Poulson, VP Engineering Services, Dakota Electric Association

iPower provides real-time data display, one-line screens, and centralized management for all your IEDs.

iPower alarm management is fast and efficient, providing clear prioritization.
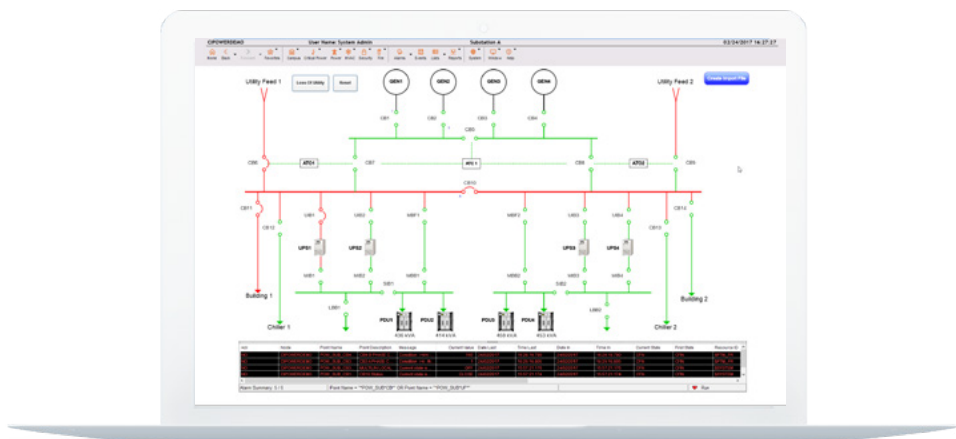
Key benefits:

- Safe and secure operations
- Enhanced decision making
- Increased productivity and accountability
- Lower total cost of ownership
- Greater operator acceptance
- Reduced configuration and training time
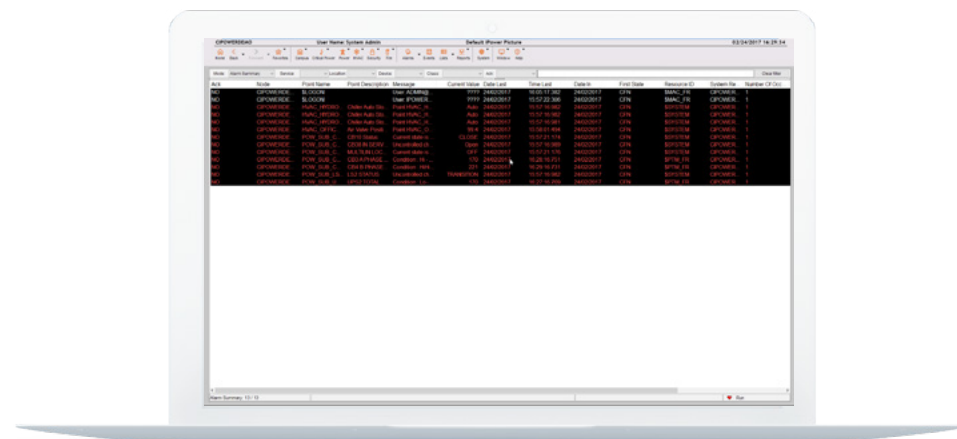- Improved operations efficiency

Key features:

- Real-time, dynamic data collection and display
- Secure operator supervisory control
- Remote, mobile, Web-enabled operations
- High availability architecture
- Scalable–add more monitoring points for devices as needed
- Manufacturer agnostic equipment integration (supports a range of IEDs)
- Alarm and event management
- Historical data storage, trending, and reporting

Four types of applications for iPower

Customer solutions

Substation automation/substation management

Acts as a substation gateway or onsite substation management interface.

Electric utility control room SCADA

HMI/SCADA solution for electricity utilities. Full supervisory control and data acquisition over electrical smart devices and equipment.

Energy management for large energy users

Power monitoring and distribution control for heavy power utilization environments.

Operations and management of critical energy delivery

Power monitoring, backup power automation, and critical power delivery management for power dependent/high availability environments.
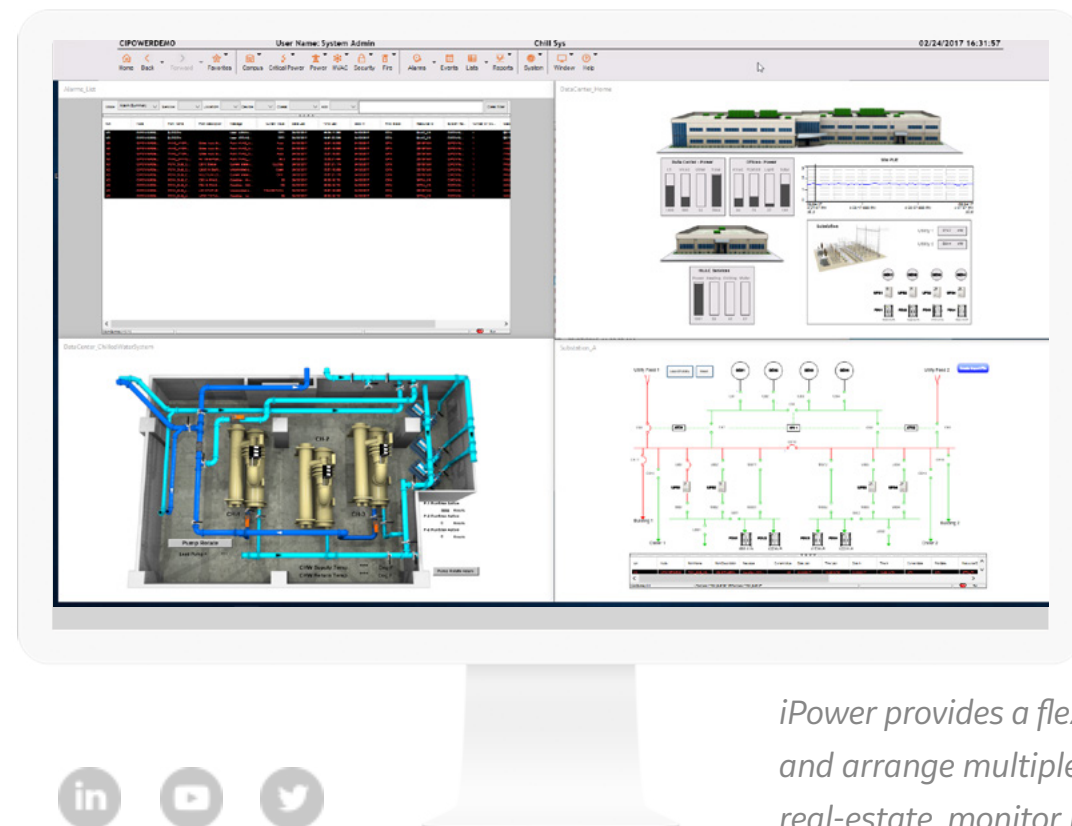
Solutions for industry

iPower is designed to suit a wide range of HMI/SCADA applications for a variety of industries:

- **Process automation:**
  Manufacturing, oil & gas, mining, water & wastewater, food & beverage, and timber processing

- **Electricity distribution management:**
  Industrial, manufacturing, and transport

- **Substation automation:**
  Electricity, industrial, and transport

- **Utility control room SCADA:**
  Electricity, water & wastewater, and oil & gas

- **Traction control system:**
  Rail, and transportation

- **Building management:**
  Commercial, education, healthcare, and datacenters

- **Critical power management:**
  Industrial, manufacturing, hospitals, datacenters, and air & sea ports

GE Digital's HMI/SCADA with iPower—Easy to use

Developed with control room operations in mind, iPower offers a familiar and intuitive Windows environment, combined with consistent and clear interfaces. It's the operator's choice for easy, safe, and efficient operations in all conditions.

Easy to configure

Developed with a range of tools that help make installation and configuration easier and quicker than other solutions, iPower is designed specifically for electric utilities to save you valuable staff time and resources.

Quick to implement

Sophisticated tools automate iPower configuration, making it easy for you to implement accurate and consistent SCADA without the need for IT specialists. iPower automates the production of clean and concise operator displays. Drop a device into a picture, and iPower automatically adds a tabular display of all related secondary points—with the perfect operator dialogs for safe, consistent control. Configuration work that took hours now takes seconds.

Simple to maintain

Perform maintenance and troubleshooting with tools that are immediately intuitive to Microsoft Windows users. Drag and drop new devices to quickly update your one-line diagrams. iPower maintenance is easy for the smallest utilities using in-house resources, keeping maintenance costs to a minimum.

Flexible to customize

Great software design makes iPower an extremely flexible and adaptable SCADA system. Microsoft VBA is embedded throughout, empowering customization to meet user-specific requirements, while retaining all the benefits of shrink-wrapped software. The prevalence of VBA expertise makes customization both easy and affordable.

Open and connected

Leveraging your existing investments today as well as the new devices you may choose tomorrow, our SCADA solutions are built on an open and layered architecture. With hundreds of drivers off-the-shelf, and full OPC client and server support, iPower is a truly open, vendor-independent solution that's flexible and interoperable—translating into real value.

iPower provides a flexible and highly configurable interface. Operators can display and arrange multiple screens on one or multiple monitors to maximise screen real-estate, monitor multiple systems, and quickly switch between different tasks.

Equipment controls in iPower are provided via universal control and information containers for each device called Tab Displays. These provide convenient access to all data, controls, and user material for each device.

GE Digital's HMI/SCADA with iPower—Easy to own

At every step, iPower reduces the cost of SCADA ownership—including purchase, installation, training, maintenance, support, updates, and product longevity. All this, plus a focus on electric utility operations, makes iPower the perfect choice for rural cooperatives and municipal authorities.

Simple to install

iPower offers user-friendly tools and an intuitive design, eliminating the steep learning curve for engineers—saving significant time and effort. Designed for installation by the utility, iPower removes the need for lengthy, costly implementation and training.

Intuitive environment

iPower provides an environment that is familiar, efficient, and safe, so it's easy to introduce in any control room. Leveraging the latest technology and industry best practices, iPower is a proven solution for utility operations around the world.

Built on GE Digital's flexible software architecture

- Client server architecture

- Multiple servers and redundant servers with automatic failover options

- View only, operate, and/or configure client options; dedicated clients and/or concurrent licensing client options

- Local LAN, WAN, and remote/portable client options

- Web-based client options

- Duplicated networking with automatic network failover
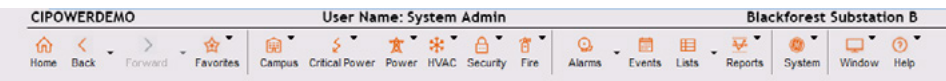
Substation automation SCADA

iPower can be installed as a stand-alone SCADA system—a single computer providing all SCADA functions:

- Server functions such as real-time communications with RTUs and IEDs, database management, alarm and event management, and history recording

- Client functions such as operator and/or engineering HMI, including monitoring, control, and configuration
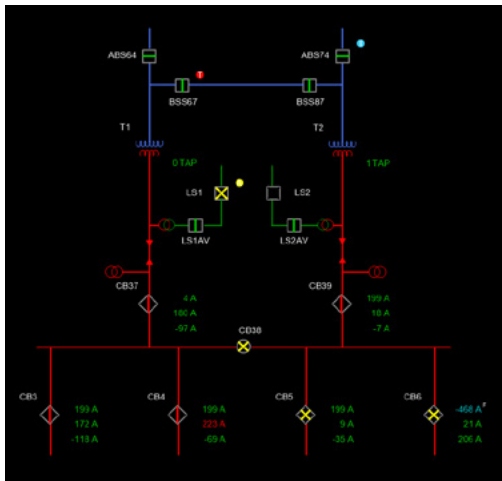
Control room SCADA

iPower can also be installed as a multi-computer SCADA system—providing various services that are distributed among multiple computers in a client server architecture.

iPower addresses the need for a scalable, flexible, and extensible SCADA—from the smallest substation automation system to the largest multi-computer system—providing control room, corporate, and remote SCADA services.

iPower provides an intuitive and familiar navigation menu that can be customized for layout, quick access buttons, and immediately familiar navigation options.

High visibility Attributes provide clear indicators of equipment with special conditions

iPower specifications

All the power you need for safer, more efficient utility operations

Simple to install

- Real-time data communication, database management, real-time dynamic data display

- Secure operator supervisory control

- Alarm, event, sequence of events, momentary change detection

- Historical collection with real-time and historical graphing

- Standard SCADA Historian or full Enterprise-wide Historian options

- User-based security

- Online configuration

Safety features

- Select before operate control

- Control timeout; control fail alarm

- Simultaneous control lockout

- Control tagging (control lockout)

- Information tagging

Standards and tools

- Microsoft VBA for scripting, customization, and automation

- ActiveX

- OPC

- SQL

- ODBC

- COM

- DCOM

- TCP/IP

Connectivity

- Proven communications software for hundreds of brands of RTUs, IEDs, PLCs and other I/O devices

- Industry standard communications protocols available, including DNP 3.0, IEC

- 870-5-101, 870-5-104, ICCP, and IEC 61850

- Full OPC server and client support

- Multiple simultaneous serial and/or Ethernet communications channels

- PI and GE Digital's Historian connectors

- ODBC and SQL tools

- VisiconX SQL wizard

- MultiSpeak compliant

Display and graphics

- Multiple monitors per workstation

- Windows-familiar navigation, including Back, Forward, Home, Favorites

- Object-oriented graphics

- Industry-specific object libraries

- Pan, zoom with automatic declutter

- Bus coloring and portable ground display

- Configurable multi-pen charts with left/right scroll, X-Y, and configurable look and feel

Standard lists/reports

- Alarms
- Events
- Sequence of events
- Off-normal
- Dynamic database display

- Control tag
- Information tag
- Manual overwrite
- Off-scan
- Disabled alarms
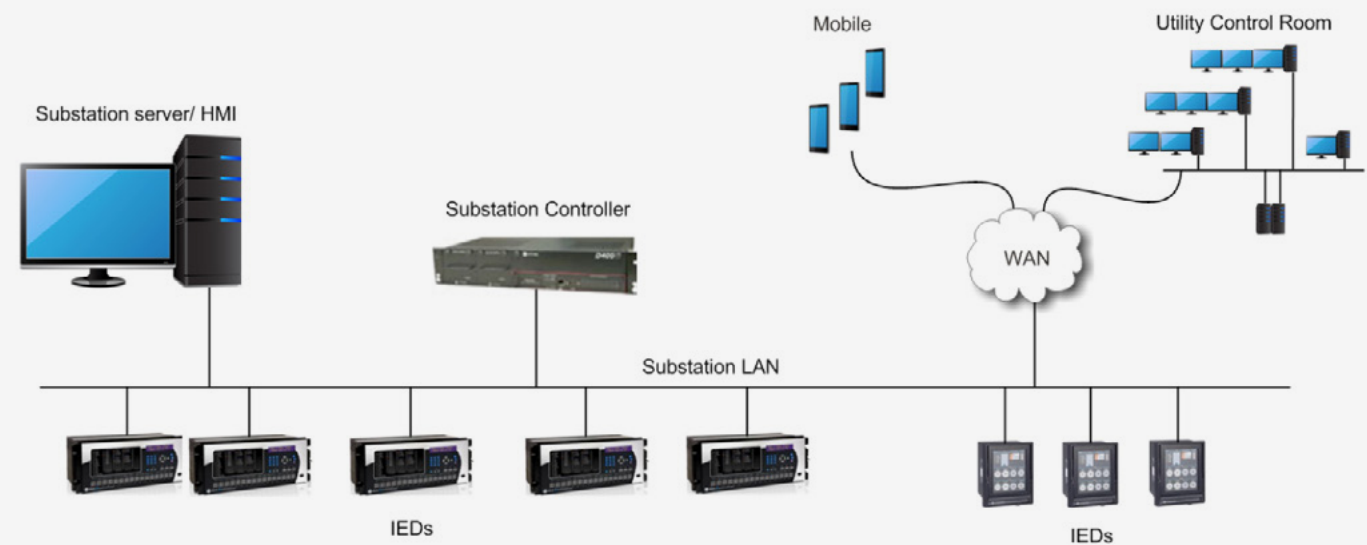- Operator notes

Requirements

- GE Digital's HMI//SCADA (iFIX or CIMPLICITY)

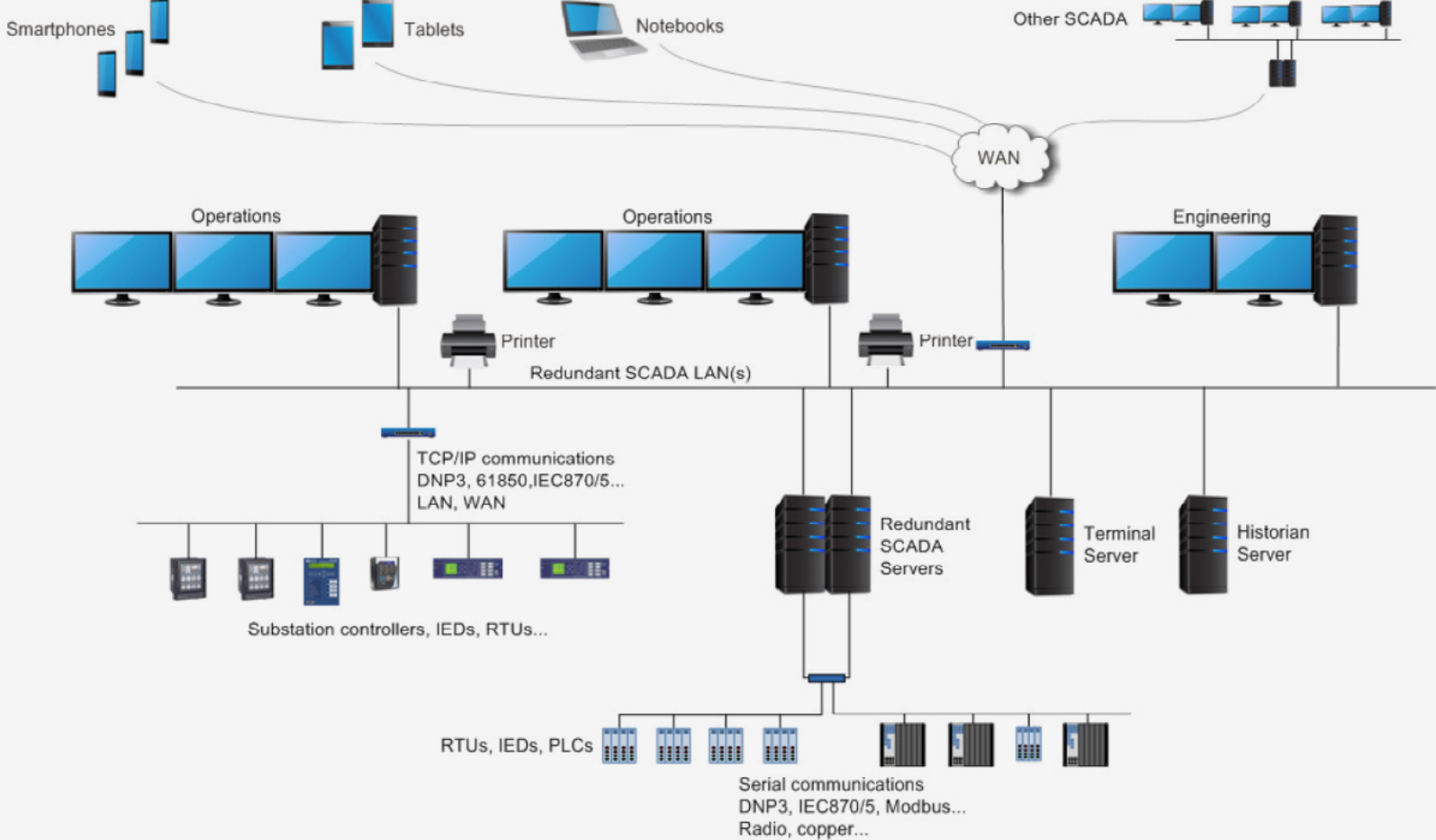- Microsoft Windows 2003 Server, Windows XP or later

Architecture—Substation Automation

iPower can be deployed as a single computer, providing both server and client functions, for highly functional substation management and automation.

Architecture—Control Room SCADA

Extensible architecture means iPower can scale to multi-server deployments and achieve high availability with redundant systems and multiple operators.

Learn how GE Digital's HMI/SCADA with iPower can help you meet your business goals.

LEARN MORE

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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