

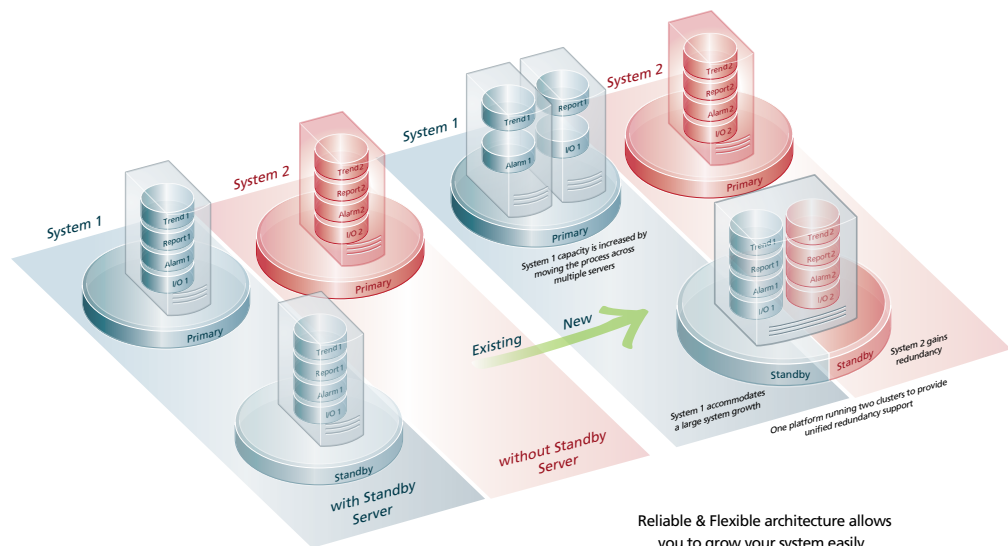
# SCADA's Powerful System Architecture

Schneider Electric's SCADA solution is a fully integrated industrial control solution that enables customers to increase their return on assets by delivering a reliable, flexible and high performance control and monitoring system. Supported by the Microsoft Gold Certified Partner program and leveraging Microsoft's talent, vision and market leadership, Schneider Electric's SCADA solution continues to lower the cost of deploying and managing all sizes of industrial applications.

The SCADA solution's true redundancy can be used to eliminate downtime allowing best practice for system changes. Redundancy of alarms, reports, trends and I/O Servers is achieved by adding standby servers. Within a defined cluster, standby servers support redundant system components. Systems without redundancy can have a single point of failure. True redundancy provides best practice deployment and implementation methodology, fostering design and maintenance issues, and, most importantly, protecting your plant operations and asset investment.

The SCADA solution's dynamic clustering allows multiple sites to be monitored and controlled from a central control room. Your system can be broken up into discrete sites that are controlled by local operators, along with support for local redundant servers. To group the primary and/or standby server(s), each site is represented in the project as a separate cluster. At the same time, clients from a central control room can monitor all sites across the system simultaneously. A single server platform can run multiple clusters, providing unified redundant support. In addition, the processes can be split up among a number of servers, allowing for system expansion and increasing the total system process load.

Your SCADA system has unique requirements that may change over time, so you need to select the best architecture that can accommodate your changing demands. Schneider Electric's SCADA solution gives you the ultimate system architecture – reliable, flexible and scalable – with powerful clustering topologies that help you grow your system easily.





## Scalable topology

- Scalability defines the ability to resize your system – up or down – without having to modify any of the existing system hardware or software. Our SCADA solution's innovative scalable architecture allows your system's architecture to grow with your requirements while preserving your initial investment
- With the current economic climate of cost cutting and centralised control, the ability of Schneider Electric's SCADA solution to unify any number of control systems into a single "clustered" system provides users with the optimum topology. Each local site is able to view its own control system while global control clients can be implemented to view across the entire control system, complete with unified alarm lists and the ability to compare trended data across the multiple systems..

## Scalable to any application size

- The SCADA applications can scale easily for all application sizes: small, medium or large.
- Coverage is available for very small applications with only a few points, through to large applications that monitor and control over half a million points. This is achieved by providing centralised and/or distributed processing.

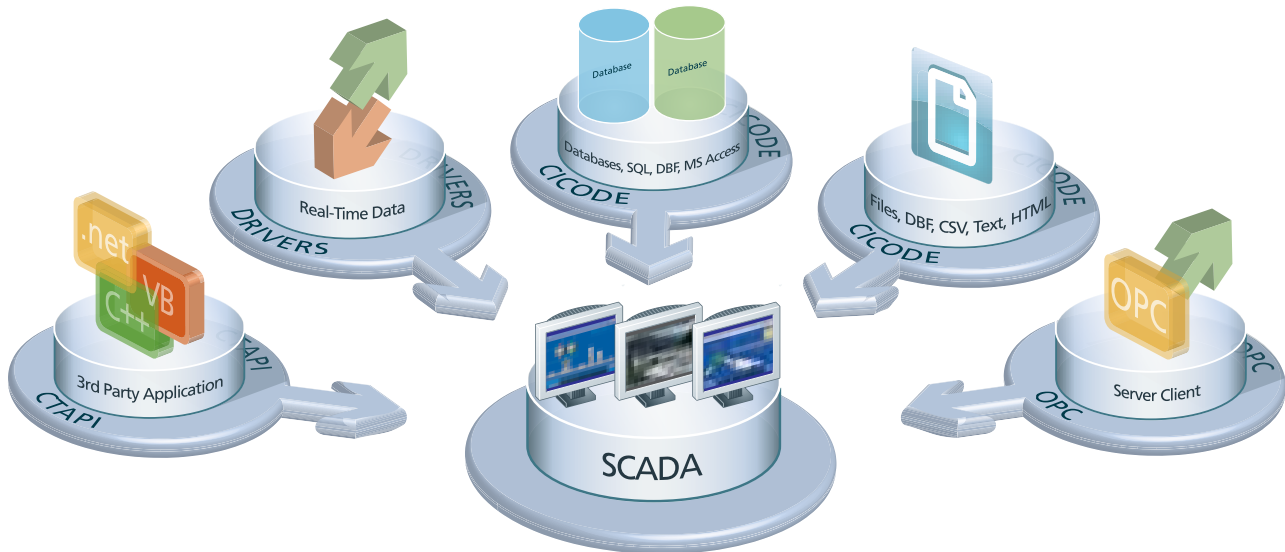
## Flexible architecture

- Schneider Electric's SCADA solution uses client-server architecture to enable you to design and redesign your system as required.
- Designed from the start for true client-server architecture, our SCADA solution is the real-time system that provides high performance and data integrity.
- The ability to support up to 255 I/O servers, each with the large number of protocols included with the SCADA solution, provides the control system with access to your data wherever it likes.
- The flexible architecture allows the communications and control system design to be completely separated and provides more freedom to change I/O server locations or system connections in the future.

## Reliable architecture

- Our SCADA solution's redundancy will tolerate failure anywhere in your system with no loss of functionality or performance.
- The SCADA solution supports full and hot standby configurations, providing complete I/O device redundancy.
- By nominating one device as primary and another as standby, the SCADA solution will automatically switch from one to the other in the event of a failure. Using the SCADA solution's ability to write setpoint changes to both primary and standby I/O devices, even devices that were not designed for redundancy can be used in a redundant configuration.
- The SCADA solution's built-in multiple network support provides full LAN redundancy.
- The SCADA solution supports redundant file locations so that even if your file server fails, your SCADA system will operate unaffected.

# Seamless Dataflow



Seamless dataflow; our open connectivity to various information systems

## 100% Data Integrity

- The SCADA solution comes with over 140 I/O device drivers included. These allow you to connect to over 300 different models of I/O devices.
- A Driver Development Kit (DDK) is available so that you can develop your own SCADA device driver. Alternatively, you can modify a configurable ASCII driver or develop a simple driver in Cicode.
- If the data represented on the screen is not valid, our SCADA solution will mark it with a user-definable hash or text message.

## Reliable Performance

- The SCADA solution's communication is demand-based — reading only those points which are requested by the clients.
- Demand-based communication reduces needless communication, giving screen update times up to eight times faster.
- The client-server processing allows further performance increases through the use of a cache on the I/O server. If a client requests data that is stored in the cache, the data can be provided without the register being re-read, resulting in a potential performance increase of 30%.
- The SCADA solution's distributed processing and network optimisation give you optimal network performance, even if you have over 450,000 I/O and 60 SCADA computer stations.

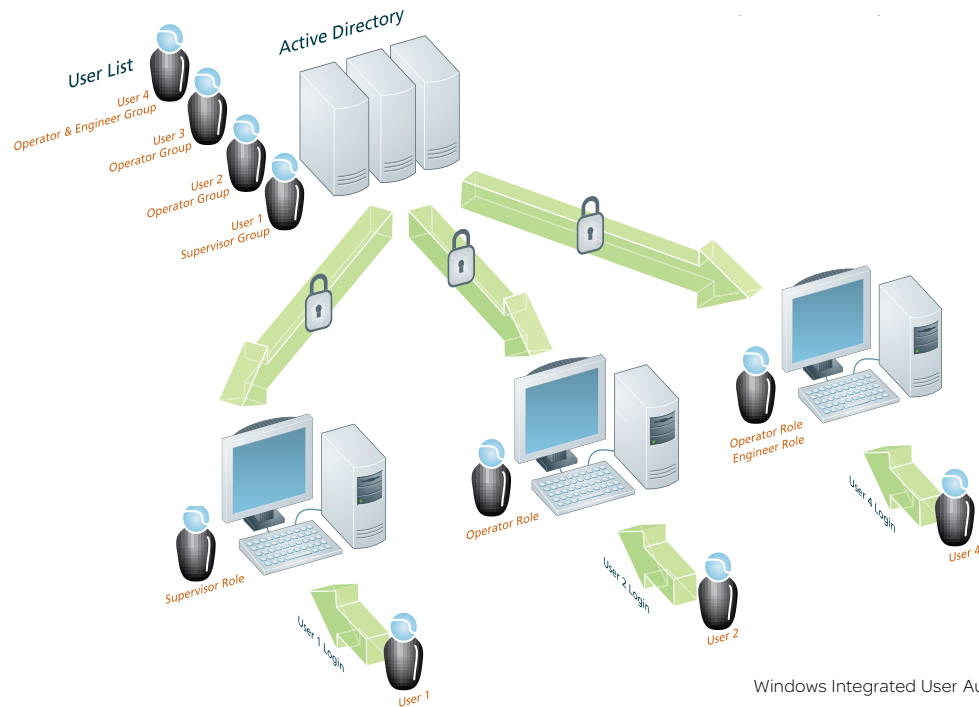
## Effective communication with low operating costs

- The SCADA solution's Remote Device Monitoring supports scheduled Dial-Out and unsolicited Dial-In, making it easy and economical for the SCADA solution to monitor devices and sites over the Public Switched Telephone Network.
- The Express Communications Wizard configures your I/O devices quickly and easily, getting your system up and running fast.

## Synchronised communication for efficiency

- By linking tags directly with PLC programming software, our SCADA solution makes it easier to configure and maintain your system.
- Our unique SpeedLink feature links your SCADA database to the PLC programming software, giving you a single database solution.
- The SpeedLink feature also allows the PLC configuration to be linked to the SCADA configuration for tags, alarms, trends and accumulators. SpeedLink-enabled changes to any device type will automatically be reflected across all instances of that device, reducing duplication of effort and ensuring system consistency.
- The tag import/export feature saves valuable configuration time because a group of tag definitions can be imported in one simple operation.
- The automatic tag synchronisation feature ensures that changes made to controller tag definitions at the PLC level are automatically updated in the SCADA solution.

# Anywhere, Anytime



Windows Integrated User Authentication

## Access data from anywhere

- Web Clients add flexibility and convenience to the management of plant operations.
- Current SCADA users can monitor operation from an Internet VPN/Intranet supported location.
- The Web Client is a completely functional client with an identical interface to the dedicated Control Clients (displayed within a web page), which requires zero maintenance.
- The deployed project configuration is downloaded from the website and updates are automatically synchronised with the Web Clients.
- The SCADA solution for Terminal Services software gives users the mobility and flexibility to view SCADA applications through hardware systems, thin-client terminals, PDAs and Internet browsers

## Runtime Security

- The SCADA solution's comprehensive security features are integrated into all interface elements to provide your system with a secure runtime environment.
- The SCADA solution's runtime security system is user based, meaning that each user of the runtime system (operators, maintenance personnel etc.) have their own username and password.
- Usernames can be managed in the SCADA solution's native security model or integrated within corporate domain-based security (Windows Integrated Security).
- Access to the systems is controlled by granting users the ability to view and access different areas. If allowed to view an area, the user may also need to have the correct privilege level to perform actions or view objects.
- The SCADA solution's View-only Clients are a cost-effective way of providing view-only access. Using concurrent licence models, the clients can be shared amongst many users anywhere on the network.