SurvalentONE

StationCentral

A Comprehensive Substation Automation Solution that Delivers Real-time Control and Monitoring

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StationCentral is a comprehensive substation automation solution that delivers real-time control and monitoring for improved protection of network assets

Survalent's StationCentral is an advanced, utility-grade solution that provides a resilient data acquisition engine, information aggregation and processing, and an HMI for utility operations at the substation level.

It offers seamless interoperability between the substation and the control room by aggregating and storing real-time data from Intelligent Electronic Devices (IEDs) locally, and processing the information. The resulting data is sent to operators for monitoring, outage analysis and protective maintenance. As well, the solution is fully scalable from single to quad redundancy and can be configured in a distributed architecture over multiple substations.

Two graphical user interface (GUI) options – StationCentral VU or SmartVU – gives you the flexibility to choose the display interface that best meets your needs.

Quick to deploy, easy to manage, and highly scalable, StationCentral protects your investment in mission-critical substations.

Seamless Communications Interoperability

StationCentral supports a wide range of protocols including ICCP, MultiSpeak, OPC, SNMP, DNP3, Modbus RTU & TCP, and the family of IEC protocols (IEC 61850 Edition 1 & Edition 2, IEC 60870 101, 104). All protocols run in native mode, so there is no need for an external protocol converter, internal converter, or front-end processor.

The Gateway solution converts protocols from substation devices to standard protocol. Interoperability is achieved in the data exchange by defining servers, virtual RTUs, and datasets.

The server editor allows you to define links to other systems.

Complete datasets can be created and assigned to multiple virtual RTUs. Each virtual RTU references a dataset of SCADA points whose values are reported to the client. The dataset editor is used to create sets of points that are referenced by the virtual RTUs.

Each dataset contains status blocks, analog, control, setpoint, and accumulator entries to which SCADA points can be mapped.

Robust Data Acquisition Engine

StationCentral data exchange servers support multiple status changes, control commands, and monitors analog and digital values such as volts, amps, power and energy variables at each substation. Values can be displayed on the StationCentral VU or SmartVU GUI, and with alarm limit checking and historical storage at defined interval and retention periods. It can also accumulate kilowatt-hour pulses from pulse initiators at each substation, freeze counts by RTU on a user definable interval, and convert the counts into interval and hourly deltas.

Acquired datasets can be accessed both locally and remotely. Operators can define points that are to be sampled, the sample frequency, and how long to retain the sample data. The system is capable of sampling at intervals as low as one second.

Users can specify recording of statistics in the sample records which includes time averages, summations, maximums and minimums, and times of maximums and minimums. Secondary datasets can be created to extract information from primary datasets.

The Sequence of Events (SOE) feature ensures that all data points are time stamped to milliseconds of the event happening. Accurate data recording helps operators understand the triggers and the order of events.

Advanced Supervisory Control

StationCentral uses a Select Before Operate procedure that is fully compliant with IEEE standards. Secure handshaking with the RTU/IED is required before any controls are executed or an alarm is raised. An optional multiple status change validation feature is available to handle cases where a control causes multiple status changes to occur.

Operators can inhibit control of devices by means of a secure, multi-level tagging feature, giving them the ability to apply up to eight tags to each point. It also has the capability to configure a custom set of tag types that are mapped to the following four basic types of tags: Inhibit ON and OFF controls, Inhibit ON control only, Inhibit OFF control only, Information only (no control inhibit).

Alarms and operational events are continuously synchronized in real-time to the hot-standby host server. StationCentral can handle thousands of alarms or events per second per operator console, with 10 alarm priority levels.

Users are able to define 3 sets of nested upper and lower alarm limits – pre-emergency, emergency and unreasonable – providing an upper limit, a lower limit and a dead band for each set.

In addition, analog points are able to generate an alarm when a rate of change is exceeded – either in the increasing or decreasing direction – or both. Each alarm limit can support a separate alarm priority.

As well, StationCentral can be partitioned into areas or zones of responsibility. The user has the ability to assign any combination of zones to each telemetered or calculated database point and/or to each login account. An operator is able to manipulate only those points whose zones overlap those of the login account.

Each user account is assigned a set of user rights that determines the actions that the user may take, providing individual control over various operating and editing functions. For enhanced security the following measures are available, supervisor control password, two-factor authentication for user login, password restrictions, and a log of successful and unsuccessful login attempts.

Comprehensive Database Editing Capabilities

StationCentral includes STC Explorer, database editing software to manage all database points, access control, control zones, system parameters, and setup of advanced applications. It also includes station clone and point modeling features. The database editor provides a graphical, tree-like representation of the complete database and supports easy navigation throughout the database to the desired items to be edited.

All changes and updates of the database are completed and validated while the system is in online operation. Real-time system operation is not interrupted or disturbed by the database editing and maintenance process.

High Performance, Scalability & Availability

StationCentral is capable of accommodating an unlimited quantity of status and control points, analog input points, text points, communication lines, RTUs, IEDs, reports, and graphic symbols. The displays on all workstations are updated and responsive to controls throughout an alarm burst. The application is third-party tested and meets the system availability requirements in accordance with IEEE standards.

The system architecture provides up to quad-redundancy to minimize downtime risk and protect against lost profitability and productivity; this allows operators to maintain visibility and control if the Master Control Center fails.

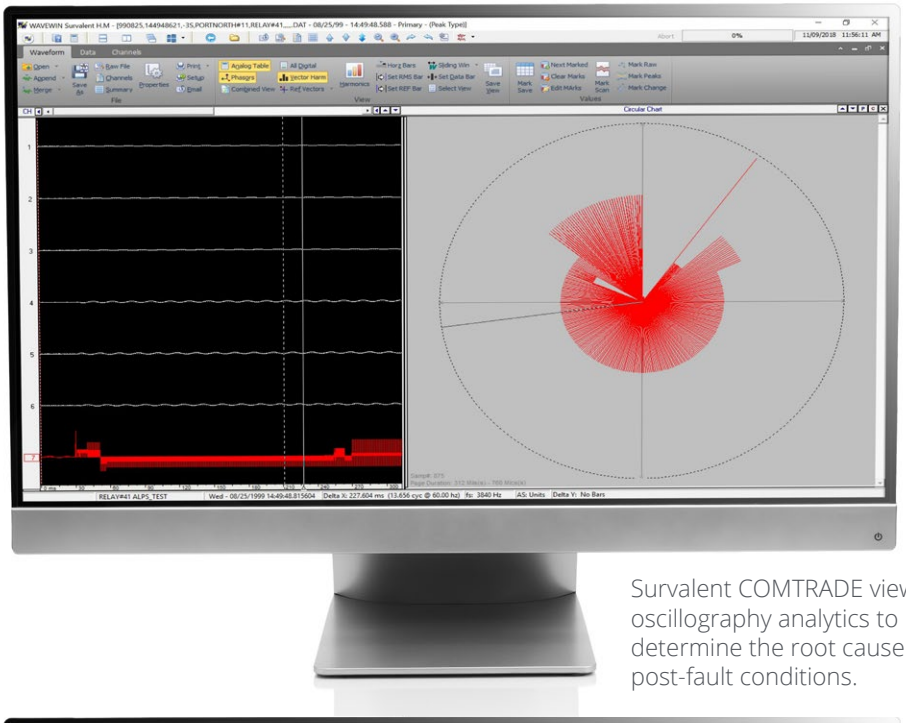
Flexible Reporting Capabilities

StationCentral supports a report generation capability that allows the user a high level of flexibility in defining, formatting, and scheduling on-demand and periodic reports.

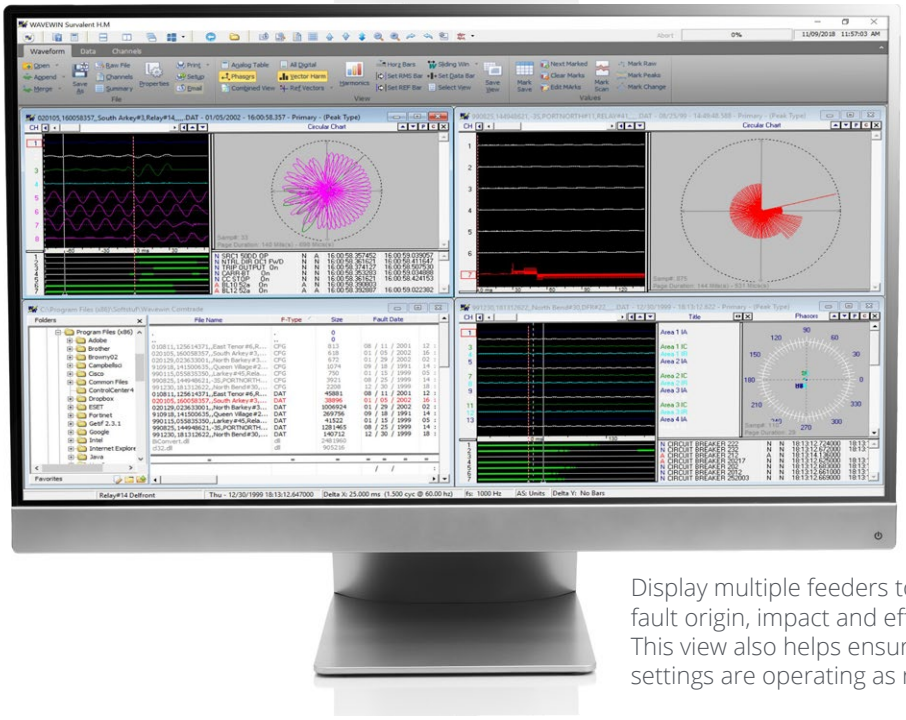
The Report Editor allows the user to define reports by specifying a database table, a set of desired data fields and the selection criteria for retrieving records from the database table. Reports can be exported to a spreadsheet or PDF.

Advanced Visualization with Comtrade Viewer

With the Survalent's Fault Data Recorder, and Comtrade Viewer, Protection and Control operators can use a variety of analytics, calculators, and visualization capabilities to conduct data forensics and enable advanced automation. Users can examine relay data in tables, graphs, and animations to better understand outages, identify root causes and faults, monitor the health of assets, and prescribe protective maintenance.



Survalent COMTRADE viewer displays oscillography analytics to help users determine the root cause for pre and post-fault conditions.



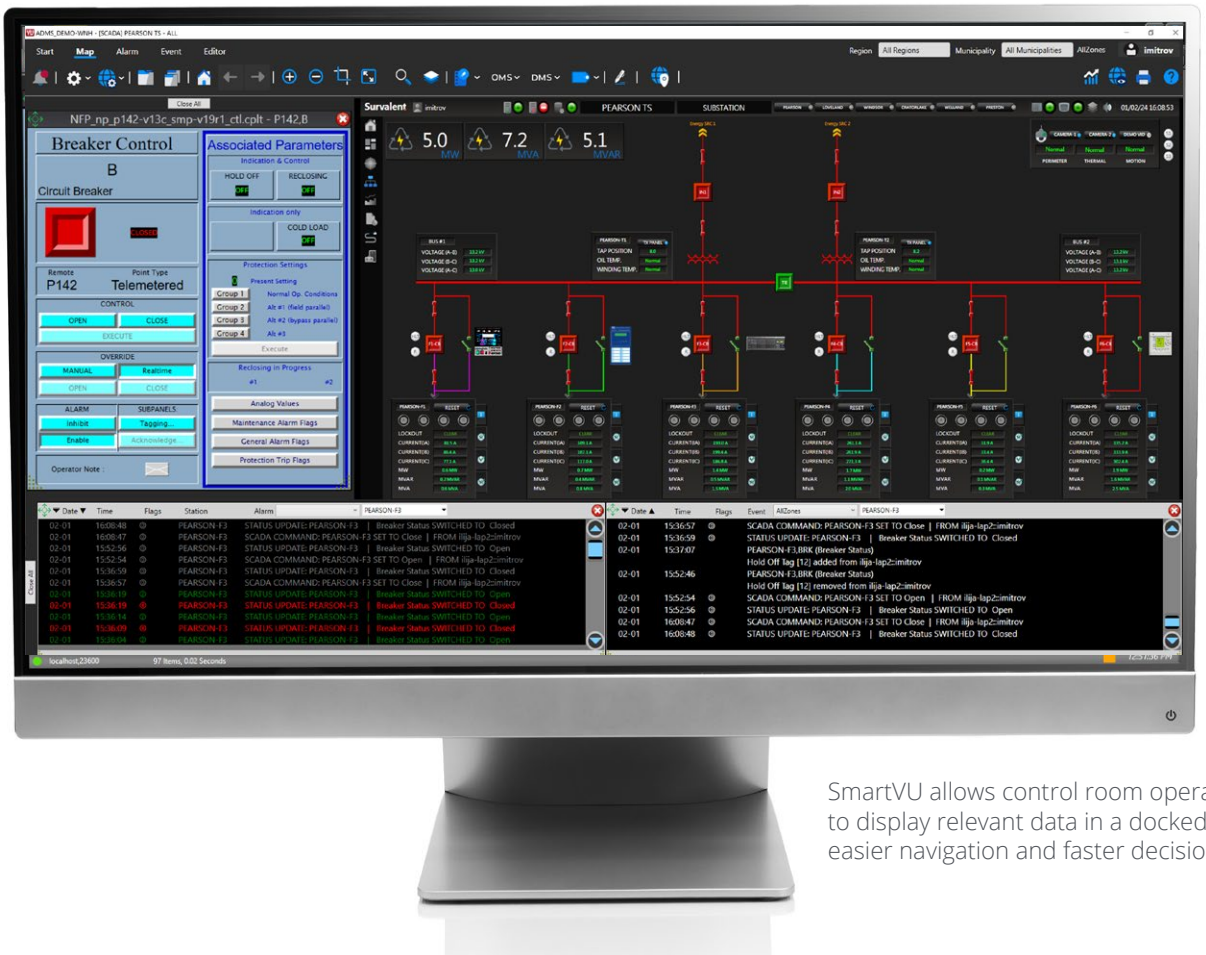
Display multiple feeders to better detect the fault origin, impact and effect in the system. This view also helps ensure that the protections settings are operating as required.

SmartVU

SmartVU is available for utilities that need enhanced graphics visualization and editing capabilities to manage complex substation assets. It features an intuitive, Windows-based GUI that makes it easy to view, manage, edit, and share all aspects of substation information. The interactive, well-organized & customizable interface provides an in-depth view of all substation assets which greatly enhances the productivity of operators making it possible for them to monitor and maintain precise, local control.

Designed for efficient navigation, SmartVU's tabbed interface gives users quick access to maps, alarms, operation logs, analysis tools, and editing features, making it easier to assess conditions and operate local devices. As well, users can present data in a variety of formats, fostering a more in-depth view of substation activities.

SmartVU provides instant right-click access to relevant historical short-term data for all analog points which allows you to spot important trends sooner – no setup is required. You can also personalize your workspace for maximum productivity and then save your preferred display configuration so that it loads automatically every time you log in to your account. Since SmartVU is interoperable with Microsoft Office, it's easy to make substation data available to internal and external stakeholders.



SmartVU allows control room operators to display relevant data in a docked view for easier navigation and faster decision-making.

Optional Graphical User Interface Environments

StationCentral collects a vast amount of data as it monitors the status of various equipment and sends control signals to remote terminal units. For that data to be actionable, it must be presented in a way that makes it easy for operators to access and use.

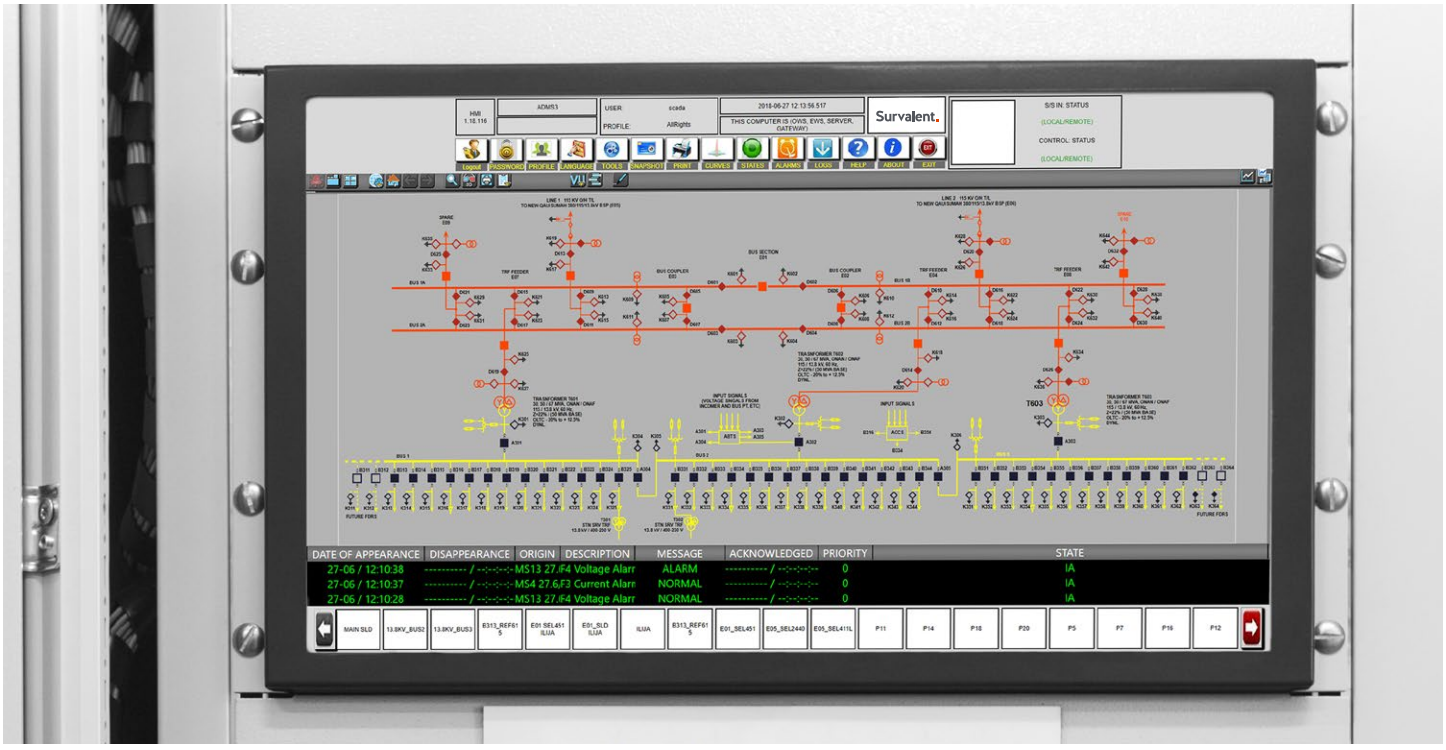
Two graphical user interface options – StationCentral VU or SmartVU – gives you the flexibility to choose the display interface that best meets your needs.

StationCentral VU

StationCentral VU features multi-server support that gives users a complete overview of processes and systems being monitored in a single view that is easy to read and navigate; multiple screens are not required. Display access – view only screen, supervisor screen or full editing mode – is restricted based on established user rights.

Editing mode allows users to modify elements of the software such as minimizing the window to access other applications, perform maintenance, or add or remove applications. It also allows the editor to create buttons for launching external applications that can be used by users with limited rights.

Available with an enhanced alarm and trend graphs package, users can extract the value of all alarms and display them in a singular, tabular view. This more detailed visualization ensures a quicker response to alarms.



The StationCentral VU layout and larger icons offer operators ready access to the tools they need without having to filter through screens or manipulate data.

Better Software.
Better Decisions.

With Survalent, you can control your critical network operations with confidence. We're the most trusted provider of advanced distribution management systems (ADMS) and substation automation for electric, water/wastewater, oil & gas, renewable energy, and transit utilities across the globe.

Over 800 utilities in 40 countries rely on the SurvalentONE platform to effectively operate, monitor, analyze, restore, and optimize operations. By supporting critical utility operations with a fully integrated solution, our customers have significantly improved operational efficiencies, customer satisfaction and network reliability. Our comprehensive substation automation solution, Survalent StationCentral, delivers advanced control and monitoring for enhanced network performance and protection.

Our unwavering commitment to excellence and to our customers has been the key to our success for over 60 years.

100% Project Delivery. We Guarantee It. Ask Us How.

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