



SmartFR™

Smart Fault Record System

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KEY FUNCTIONS

- ◆ Fully meet with requirements to facilitate the analysis of disturbances on power system or both generation and transmission & distribution assets
- ◆ Provides High-Accuracy Time-Stamping
- ◆ Provides Oscillography and Event Reporting
- ◆ Automatically collect, archive and visualize for fault records and disturbance records of protection relays & fault recorders.
- ◆ Automatically collect, archive and display Sequence of Events (SOEs) of protection relays and BCUs
- ◆ Accurately time-stamp SOE, FR, and DDR data, which can then be easily time-synchronized by the user
- ◆ A compact, economical system that includes the needed equipment to fully meet all of the EVN requirements; these systems are designed to operate in harsh substation environments
- ◆ Provide system-wide detail records and analysis tools, such as: searching and filtering for data analysis
- ◆ Manage IEDs in hierarchy
- ◆ Distributed collection system and Centralized Data Management
- ◆ Compliant with International standards: IEC, NERC, IEEE
- ◆ Compatible with Fault record and Disturbance record protocols including: IEC61850-8-1 File Services, FTP, Telnet, proprietary protocol, etc.
- ◆ Support latest version of COMTRADE file format
- ◆ Support IEDs from multiple manufacturers: SEL, Alstom, GE, Siemens, IngeTeam, Nari, Toshiba, etc.
- ◆ Support more than a thousand IEDs

SmartFR™ is a software that can automatically collect and analyze digital fault recording data in control and protection systems, the results of which is presented to operators.

SUPPORTED OPERATING SYSTEM

- ◆ Microsoft Windows XP
- ◆ Microsoft Windows Vista
- ◆ Microsoft Windows 7
- ◆ Microsoft Windows 8
- ◆ Microsoft Windows 10
- ◆ Microsoft Server 2003
- ◆ Microsoft Server 2008
- ◆ Microsoft Server 2012

HARDWARE MINIMUM REQUIREMENT

- ◆ Processor: 1 gigahertz (GHz) or faster processor or SoC
- ◆ RAM: 1 gigabyte (GB) for 32-bit or 2 GB for 64-bit
- ◆ Hard disk space: 16 GB for 32-bit OS 20 GB for 64-bit OS
- ◆ Display: 800x600

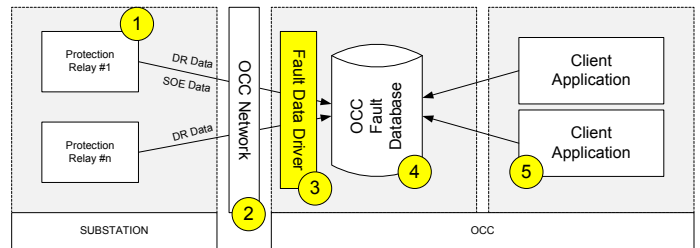


Figure 1. Data Management Structure

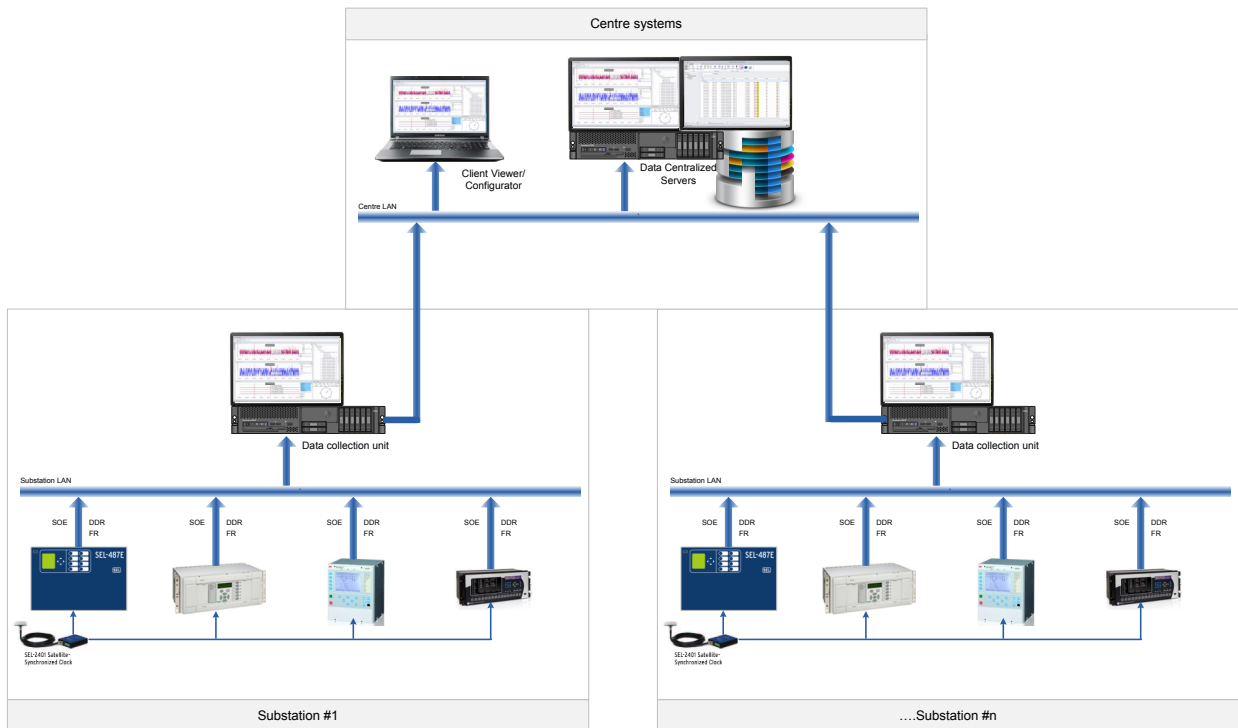


Figure 2. Overall System Architecture

CONFIGURATION TOOLS

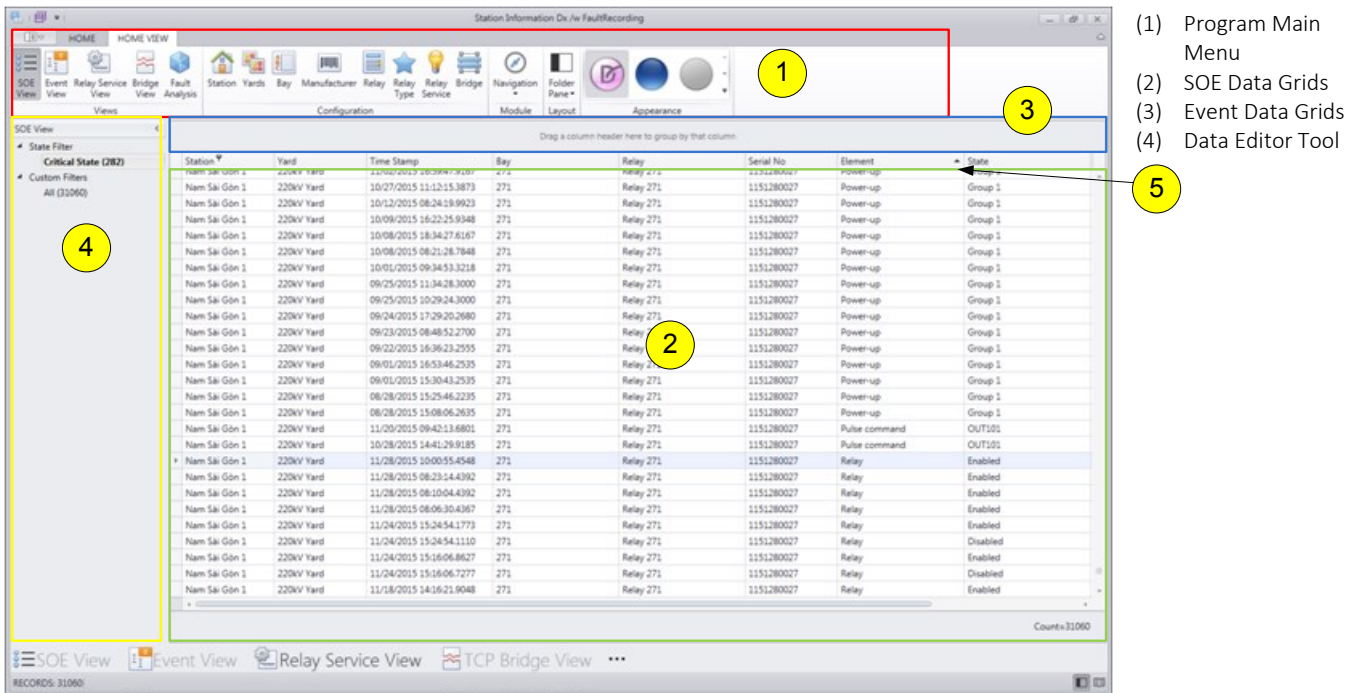


Figure 3. GUI Main Menu

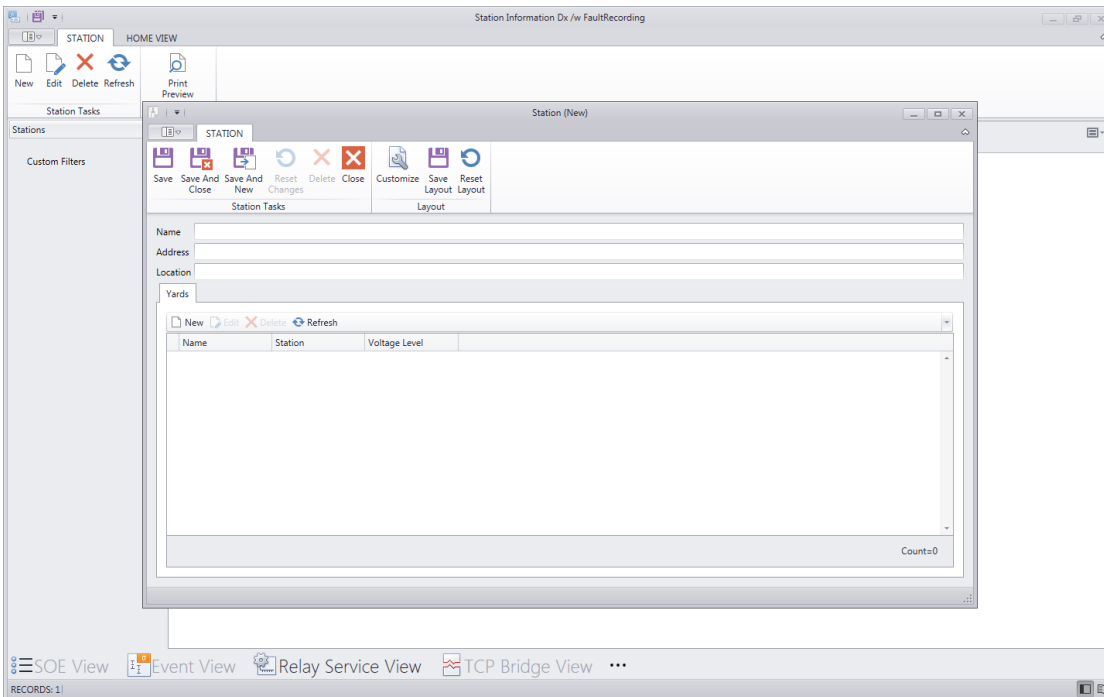


Figure 4. Station Editor

DATA VIEWER TOOLS

The program provides:

- ◆ Navigation function
- ◆ Data Filtering Function
- ◆ Search/Find function
- ◆ Data Display tool

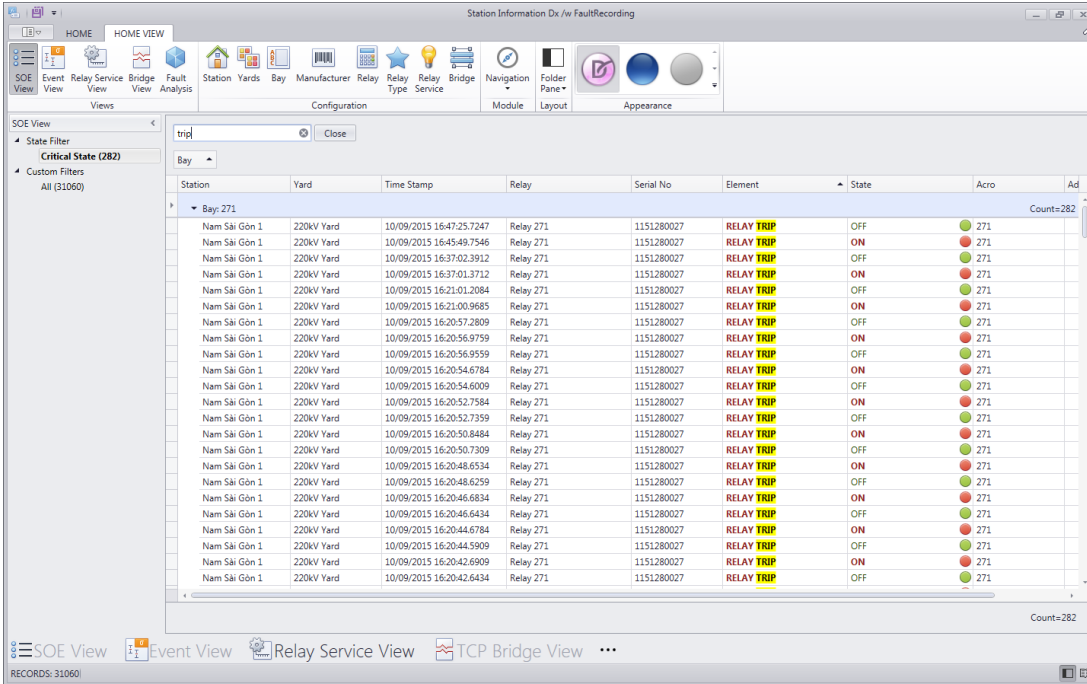


Figure 5. SOE Viewer

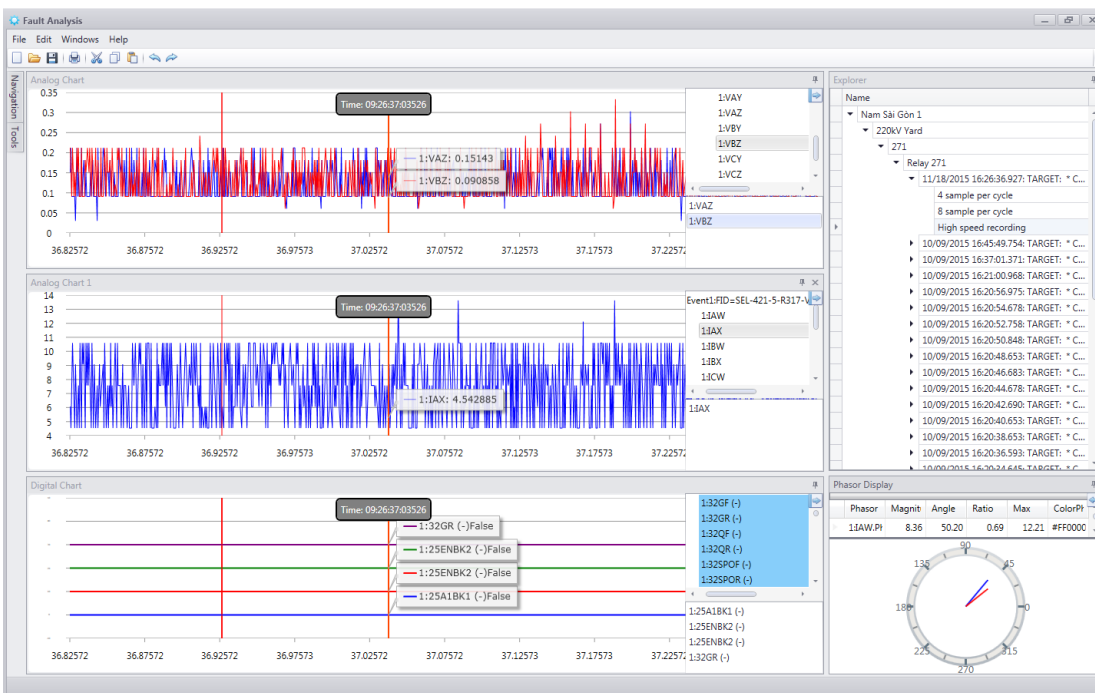


Figure 6. Fault Analysis