



CORE™ System Analyzer Tools

Advanced Analysis and Tracking of Automated Protection Studies

In order to address the growing complexity of modern protective devices, Quanta Technology has developed the CORE™ suite of software tools. The CORE™ suite of tools addresses the new challenges related to Compliance, Operations, Reliability, and Engineering that are faced by transmission system operators due to the evolving nature of power grids and associated regulatory requirements. To maintain the reliability and resiliency of the grid, power system protection engineers must routinely simulate and analyze protection system behavior using protection simulation software applications. Comprehensive protection studies on a wide range of system conditions produce extensive amounts of raw data that quickly becomes overwhelming to comprehend. CORE™ tools have been developed to address one of the main challenges faced by protection engineers when using the automation capabilities of software tools for conducting advanced studies: efficient processing and interpreting large volumes of data.

CORE™ System Analyzer tools

Quanta Technology's CORE™ System Analyzer tool enables protection engineers to utilize protection software applications to their maximum capabilities through automated processing and interpretation of study data, providing the user with summarized results in a condensed, readable report. This tool allows protection engineers to focus on actual issues rather than performing hundreds of studies manually and managing massive data sets generated by simulation output. The CORE™ System Analyzer capabilities include protection settings review and compliance evaluation studies for both transmission and distribution utilities. The CORE™ System Analyzer interfaces with the major power systems simulation software applications used for protection studies including CAPE, ASPEN OneLiner, CYME, and Synergi Electric.

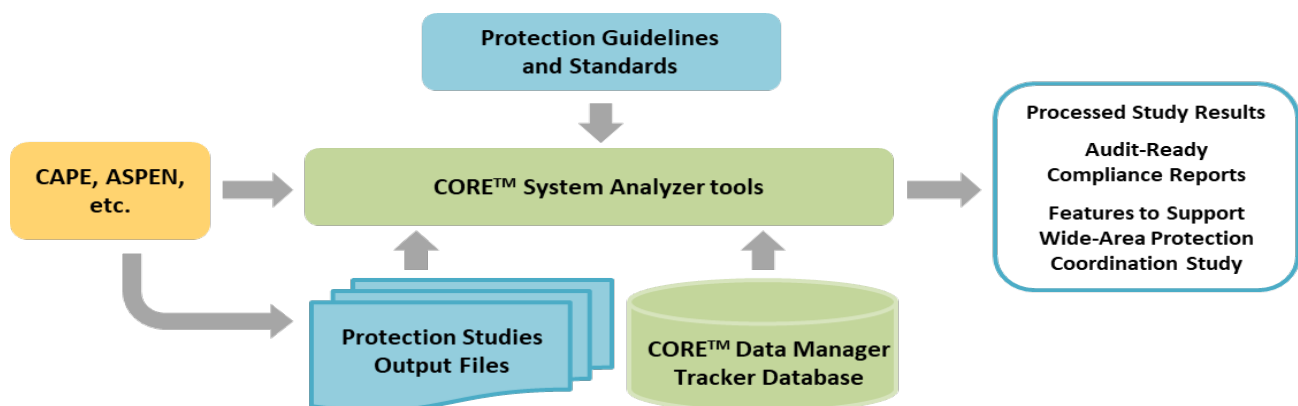
Why Quanta Technology

The CORE™ System Analyzer tool is built on years of experience by Quanta Technology's protection and automation experts. The CORE™ System Analyzer is used by multiple utilities in North America and internationally and has demonstrated dramatic improvements in efficiency across multiple projects.

CORE™ System Analyzer Post-Processing for Automated Protection Studies Data

Simulation software is increasingly used in the automation of comprehensive protection studies such as sensitivity, coordination, wide-area coordination, and regulatory compliance. The CORE™ System Analyzer further enhances basic automation by generating a condensed summary through advanced processing of the underlying raw data, enabling new ways of running power systems studies and evaluating settings and operation of systems.

The CORE™ System Analyzer not only processes raw data to prepare user-friendly reports that summarize the issues, but also preserves and indexes raw data so it is readily accessible for more in-depth reviews. For compliance studies, the CORE™ System Analyzer tool prepares audit-ready compliance summary reports. In addition, the CORE™ System Analyzer tool can be applied to assess the risk associated with any issues found in the study based on probability of occurrence and consequence. These insights can then be used to prioritize the most pressing issues.





Automated Protection Studies

➤ Sensitivity Study

Evaluating if protection relay settings are set as per protection philosophy

➤ Coordination Study

Evaluating if protection relays are coordinated (i.e. operate in the intended sequence) under different fault situations and system conditions

➤ Wide Area Protection Coordination (WAPC) Study

Systematic evaluation of protection relay coordination across the entire (or a large area of) the transmission network

➤ Compliance Study

Evaluating if protection relay settings follow regulatory requirements such as NERC standards: relay loadability (PRC-023), operation under stable power swings (PRC-026), and coordination of protection systems (PRC-027)

CORE™ System Analyzer Tracking Database

The CORE™ System Analyzer tool has the option of integrating a tracking database. This capability can be applied to provide an intelligent solution for organizing protection studies and to support regulatory compliance requirements such as NERC PRC-027-1.

The added features include:

- System equipment tracking using protection simulation software
- Record-keeping of protection studies associated with each type of equipment
- Enabling team members to access the study results concurrently and collaborate in analyzing the study results
- Allowing utilities to perform wide-area protection coordination (WAPC) studies in-house
- Support of NERC PRC-027-1 Compliance: tracking base-case fault currents, bus-fault comparison and coordination studies, and generation of audit-ready reports at any time.

Customized to Meet Your Requirements

Quanta Technology believes in providing solutions that directly align with customer needs and, therefore, allows for customization of CORE™ System Analyzer tool. Customers have the option to customize its features specifically to their internal processes and needs.



SERVICE
Quanta Technology has the staff and expertise to conduct studies for utilities

LICENSE TOOLS
If a partner utility wants to perform studies independently, Quanta Technology will license tools

About Quanta Technology

Quanta Technology is an independent technology, consulting, and testing company providing business and technical expertise, along with advanced methodologies and processes, to utilities and others in the power and energy industries. Our mission is to provide unparalleled value to our clients in every engagement across the value chain by using advanced software and hardware, laboratories, and custom tools for a holistic approach to practical service and the most insightful thought leadership in the industry.

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Smart Solutions Practical Results

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