



DANОВО

ENERGY SOLUTIONS

A QUANTA SERVICES COMPANY

CORE

SOFTWARE PLATFORM FOR UTILITIES

Compliance • Operations • Reliability • Engineering

**Automating data, protection, compliance,
and interconnection workflows**



WHAT IS CORE?

CORE® is a specialized software family on one governed data foundation.

THE CHALLENGE

Utilities are managing more complexity than ever. Protection settings must stay current amid rapidly changing grid conditions, asset data lives across multiple systems, and NERC requirements keep evolving. Many organizations rely on established workflows built for earlier processes, which are now ready to be optimized and automated for greater efficiency and a stronger, more unified foundation.

THE SOLUTION

CORE® brings engineering, protection, compliance, and planning workflows onto a shared, utility-grade data foundation built on a common standard. Deploy a single module to solve a specific problem, or combine multiple modules into an integrated platform that addresses challenges across your organization. Available on-premises or in the cloud, CORE® aligns with your infrastructure and security requirements.



Automated data import



Protection analysis



Compliance



Interconnection

THE FOUNDATION

CORE® INSIGHTS

A unified data foundation

PRODUCT STANDARDS

- Follows a **Software Development Lifecycle (SDLC)** to ensure consistency, security, and sound business practices.
- Includes **built-in NERC compliance workflows** for generating auditable reports and tracking throughout the process.
- **Designed for cybersecurity**, aligning with utility IT regulations and cybersecurity requirements to protect sensitive data.
- **Modular by design**, enabling organizations to adopt only the CORE® solutions they need and expand over time.
- **Supported by ongoing maintenance and support services** that evolve with client and regulatory requirements.

CORE BY THE NUMBERS



15+

Utilities running CORE
across North America



8+

Years deployed in utility
environments



20+

Current active modules



VS



FLEXIBLE

Deploy on-premises or in the
cloud

CORE® INSIGHTS

The platform at the heart of the CORE® ecosystem. Explore, report on, and build from governed asset, protection, network, and operational data across every source system.

THE CHALLENGE

Even after data is standardized and aligned, teams often cannot easily use it. Records remain locked in vendor-specific tools, reports are rebuilt manually, and there is no shared place to explore available data or trace it back to its source. The result is duplicated effort, inconsistent reporting, and studies that cannot build on one another.

THE SOLUTION

CORE® Insights is the platform layer of the CORE® ecosystem. It provides every team with a single place to explore records across source systems, run prebuilt and custom reports, and design new reports without proprietary software. Built-in ETL pipelines ingest source data, govern it within the platform, and publish it to downstream systems. As the foundation of the CORE® suite, including ADI, Coordination, Loadability, and PRC compliance modules, every study, report, and operational decision is built from the same trusted source.

GOVERNED DATA *Every source, aligned*

	Asset data
	Protection settings
	Network models
	GIS
	Operations data
	Compliance data

HOW CORE® INSIGHTS WORKS

CORE® Insights



One platform to explore, report, build, integrate, and power every CORE® module

ONE PLATFORM *Every team. One source.*

	Record Explorer
	Reporting Platform
	Report Designer
	ETL and Integration
	Ecosystem Backbone

KEY CAPABILITIES

- **Record Explorer:** Search, filter, and inspect records across all source systems in one place, with column-level detail and CSV export.
- **Reporting Platform:** Run prebuilt reports (Executive Summary, Health Report, Equipment Lifecycle) or saved reports on demand or on a schedule.
- **Report Designer:** Combine record types across source systems into custom reports, select the required columns, preview results, and export to Excel.
- **ETL and Integration:** Built-in pipelines connect source systems to the platform and publish governed data to downstream systems, enabling seamless integration across your environment.
- **Governed and Traceable:** Role-based access, version history, and end-to-end data lineage provide audit-ready traceability back to the source.
- **Ecosystem Backbone:** Provides the trusted data foundation for the CORE® suite, including ADI, Coordination, Sensitivity, Loadability, and PRC-023/025/027.

CORE IN ACTION

Medium-sized North American utility

- **Challenge:** Asset and protection data had already been standardized and aligned, but analysts still could not efficiently locate records or produce consistent reports without vendor-specific tools and specialized expertise.
- **Approach:** Teams used CORE® Insights to explore records across all source systems in one place and build standardized reports using Report Designer—without proprietary software.
- **Impact:** Analysts compared data across the entire fleet, generated consistent reports in minutes, and reused the same governed data foundation across studies and compliance activities.

CORE® AUTOMATED DATA IMPORT (ADI)

Automates relay settings import into short-circuit simulation platforms, eliminating manual data entry.

THE CHALLENGE

Maintaining simulation-ready protection models is slow, manual, and error-prone, and a single mistake can invalidate an entire protection study. Engineers must bridge the gap between relay settings repositories and short-circuit models by hand, re-keying settings, interpreting protection functions, and reconciling naming, modeling, and protection conventions across vendors and device types.

KEY CAPABILITIES

- Provides workflow management and process integration.
- Compatible with industry-standard and custom platforms.
- Interprets protection functions across vendors and schemes.
- Configures to your protection settings and conventions.
- Creates simulation-ready protection models.
- Supports flexible single-line and multiple-line modeling.

INDUSTRY ENGAGEMENT

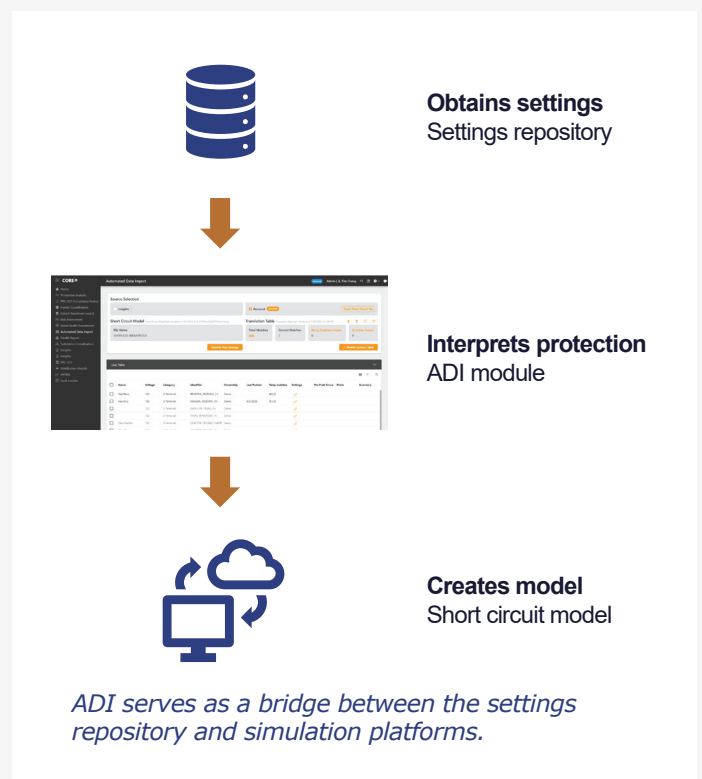
In use by multiple utilities across North America, CORE® ADI has demonstrated efficiency gains. ADI's simulation-ready output supports advanced protection studies, including settings sensitivity, wide-area protection coordination, and NERC PRC-027 evaluations.

CORE IN ACTION

Built on years of database application and protection modeling experience, ADI replaces manual relay settings entry between the relay repository and the simulation model. Each deployment is configured to match a utility's naming, modeling, and protection conventions, enabling engineers to move directly from raw settings files and templates to relay-operation simulation and protection response evaluation.

THE SOLUTION

CORE® ADI automatically bridges the relay settings repository and the short-circuit model. It connects to both systems to obtain protection data, interprets settings revisions, tripping elements, and custom logic schemes across vendors, and creates fully configured, simulation-ready protection models. Engineers can move directly from data import to relay-operation simulation without manually re-entering settings.



CORE® PROTECTION ANALYSIS

Automation-assisted studies to assess protection system performance, from a single line to the entire system.

THE CHALLENGE

Protection systems are critical to the safe and reliable operation of the electric grid. As grid operations evolve and protection hardware, schemes, and regulatory requirements become more complex, evaluating protection-system performance across contingencies and challenging scenarios becomes increasingly difficult. Manual studies require significant time and effort, making it difficult to evaluate protection performance consistently and at scale.



THE SOLUTION

CORE® Protection Analysis automates protection-system performance studies. By combining industry-standard simulation tools with built-in automation and reporting, engineers can perform comprehensive sensitivity and coordination studies at scale, improving system reliability and supporting compliance with standards such as NERC PRC-027.

KEY CAPABILITIES

- Evaluates a wide range of fault and contingency scenarios.
- Runs engineer-defined studies with minimal manual work.
- Performs detailed sensitivity analysis against your protection criteria.
- Post-processes results to summarize key issues.
- Supports wide-area protection coordination.
- Compatible with Siemens' Advanced Protection Assessment (formerly PSS®CAPE) and ASPEN OneLiner.

INDUSTRY ENGAGEMENT

Methodologies presented at:

- 2021 CIGRE Canada Conference & Expo, Full-Cycle Automation of Transmission Line Protection Settings Evaluation
- 2021 Western Protective Relaying Conference, Practical Implementation of the Stepped-Event Analysis in Protection Evaluation.

CORE IN ACTION

Engineers define study conditions once, then execute comprehensive sensitivity and coordination studies with minimal manual intervention. Results are post-processed into reports that help identify the root causes of coordination issues easily and reliably.

Sensitivity

Coordination

CORE® COMPLIANCE

Automation-based solutions for NERC protection system compliance, including scoping, tracking, and audit-ready documentation.

THE CHALLENGE

NERC compliance is demanding, detailed, and time-consuming work for utilities. Standards like PRC-023, PRC-026, PRC-027, TPL-001, and CIP-010 each call for regular reviews, with their own studies, data to manage, and documentation to prepare. Much of this is still handled through manual workflows built for earlier processes that are now ready to be optimized and automated for greater efficiency.

KEY CAPABILITIES: PRC-027 EXAMPLE

- Tracks deviation of bus-fault current from their baseline values to define coordination scope.
- Manages protection settings reviews and data across the workflow.
- Tracks coordination study readiness and review status for what is in scope.
- Surfaces protection model issues.
- Aligns reviewed reports with in-scope equipment, determines completeness, and compiles audit-ready compliance reports.

INDUSTRY ENGAGEMENT

An automated approach to PRC-027-1 protection system coordination of BES elements, combining protection-system expertise with automation and simulation was presented at the 2019 Texas A&M Conference for Protective Relay Engineers.

CORE IN ACTION

Utilities streamline PRC-027 Requirement R2 compliance from study preparation through audit-ready reporting. Baseline bus-fault comparisons identify BES elements for evaluation, the Wide-Area Coordination module performs coordination studies, and results are automatically compiled into audit-ready documentation.

THE SOLUTION

CORE® Compliance automates key activities across multiple NERC protection standards, leveraging the simulation model enhanced by ADI, to executing studies and generating audit-ready reports. For example, for PRC-027 it performs baseline bus-fault tracking and comparison studies to define scope, then determines the coverage and review status of wide-area coordination studies before generating audit-ready documentation. For TPL-001, it performs single point-of-failure (SPoF) based protection studies and converts results into outage files ready for planning studies.



PRC-023

PRC-026

PRC-027

TPL-001

CIP-010

CORE® INTERCONNECTION

Streamlines interconnection workflows from application submission to final approval for utilities, ISOs, and RTOs.

THE CHALLENGE

The growing volume of interconnection requests, driven by inverter-based resources, data centers, and electrification, is straining traditional review processes. Study backlogs and manual workflows delay generation and load evaluations, slowing project approvals for utilities and developers alike.

THE SOLUTION

CORE® Interconnection automates the interconnection queue from intake through approval. AI-powered screening validates applications in minutes. Generation and load studies support the full project lifecycle, including clustering, feasibility, system impact, and facilities studies. Model Validation Testing (MVT) compares generator models against ISO standards.

KEY CAPABILITIES



Automated Interconnection Management System (AIMS)

provides a single system of record for the interconnection queue, from intake through interconnection agreement, includes real-time dashboards plus milestone tracking to support FERC Order 2023 compliance.



Model Validation Testing (MVT)

validates generator models in PSS®E and PSCAD against ISO standards, running required testing before studies proceed. Users can provide feedback to the module, refining its validation rules so it improves over time.



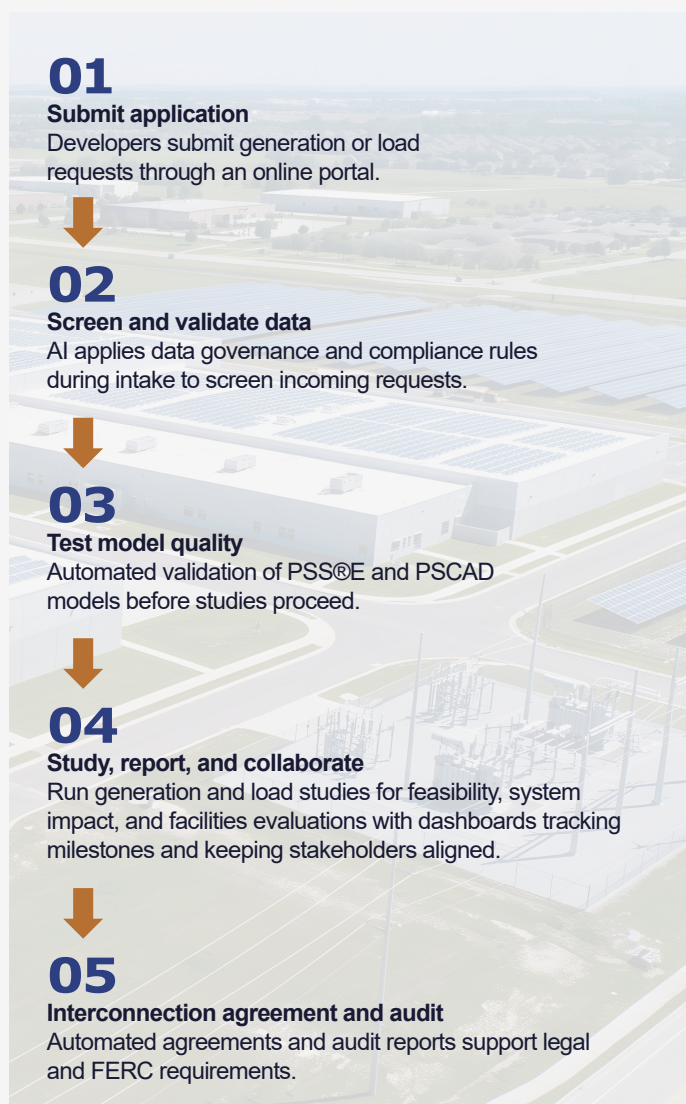
Large Load Interconnection Study (LLIS)

is an AI-assisted module that parses documents, cross-validates the information against the latest ISO large-load interconnection criteria available, and provides engineers with comprehensive validation reports.

CORE IN ACTION

Utilities using LLIS have found it valuable for reviewing intake files and comparing them against one another to check for consistency. In one case, it identified a discrepancy in the peak load MW value in the stated intake form against the provided PSS®E model.

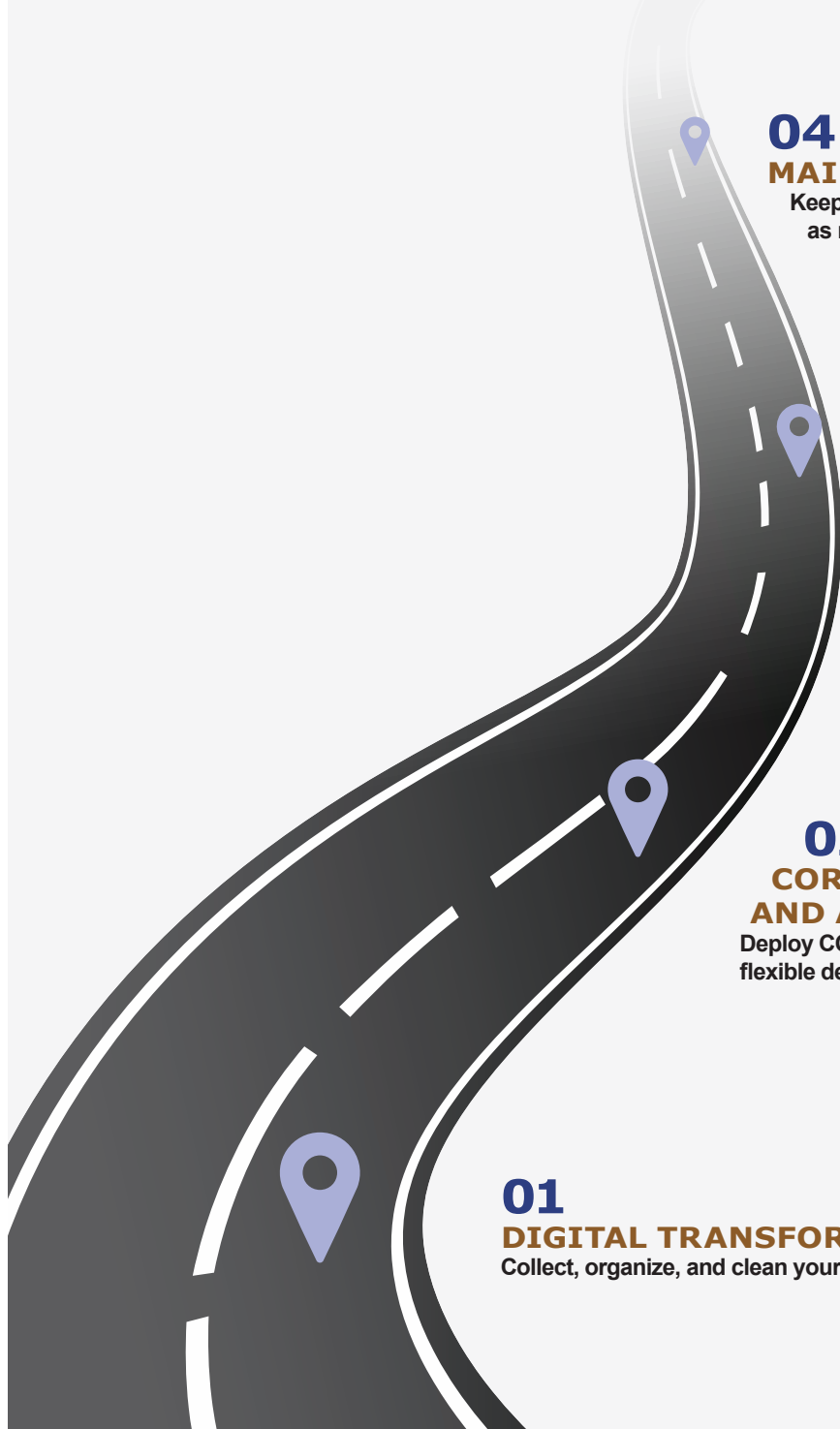
With MVT, engineering teams have automated the validation of PSS®E and PSCAD models to run the required testing, including HVRT, LVRT, and more, saving significant time over manual workflows.





GETTING STARTED WITH CORE

Whether you're solving a single challenge or building an enterprise platform, CORE scales with your organization's needs.



01

DIGITAL TRANSFORMATION

Collect, organize, and clean your data so it's ready for CORE

02

CORE DEPLOYMENT AND ADOPTION

Deploy CORE solutions that fit your team, with a flexible design that adapts to how you work

03

CUSTOMIZE

Tailor the modules to your needs and enjoy a more efficient, data-coherent source for all your workflows

04

MAINTAIN AND IMPROVE

Keep refining and improving your solutions as new program efforts are implemented

LET'S PUT CORE TO WORK

Whether you are addressing a specific workflow challenge or building an integrated enterprise platform, our team can help identify the right starting point for your organization.

DISCUSS YOUR USE CASE

Explore where automation and governed data can improve your current workflows.

REQUEST A DEMONSTRATION

See the CORE® platform and relevant modules in action.

PLAN YOUR DEPLOYMENT

Identify the modules, integrations, and deployment approach that fit your organization.

CONNECT WITH THE CORE TEAM

Product information, licensing, demonstrations, and support

info@danovoenergy.com

Learn more

danovoenergy.com/offering/software-solutions/core/

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An abstract graphic design featuring overlapping concentric circles and arcs in blue, orange, and grey. The composition is set against a light grey background. On the right side, there is a halftone dot pattern that transitions from a dense blue grid to a sparser orange grid. The overall aesthetic is modern and geometric.



NOT YOUR TRADITIONAL CONSULTANTS

Who:

Trusted advisors and solution providers with global utility experience.

Industry-recognized thought leaders.

Engineers and MBAs with the ability to address business and technology strategy, as well as the most specialized issues.

Experience spanning the entire lifecycle, from planning to Engineering, Procurement, and Construction (EPC) implementation with Quanta companies to asset management and renewal.

Why:

Independent, objective, and practical advice and solutions.

Unique business, regulatory, and technical expertise and best practice know-how.

Unique software and hardware solutions.

Staff augmentation for technical roles.

Testing, commissioning, integration, and post-installation evaluations of technologies via sustainable technology integration labs.



*Accelerate the outcomes for your projects.
Contact and follow us today.*



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