

Distributed Energy Resources (DER) Optimizer



Plan and Integrate Distributed Energy Resources Efficiently and Reliably

Overview

Landis+Gyr's Advanced Grid Analytics DER Optimizer application allows utilities to accurately plan for and manage distributed energy resources located on the grid or at a customer premise. The application assists utility planners in analyzing the impacts of renewable penetration on the grid and supports optimized storage location planning and power quality impact mitigation. In addition, it supports achieving regulatory compliance, reliability enhancement and financial objectives for a utility.

DER Optimizer application allows accurate, dynamic modeling and simulation of the distribution network based on the utility's own network and customer data. The application simulates and displays network change conditions due to the impact of distributed energy resources on the distribution system. It examines the impact on power flows and power quality in case of sudden loss of renewable generation. The utility can use the application to determine the optimal amount of DER to integrate on the distribution system as well as the maximum limit of how much DER a feeder or substation can handle without adversely affecting power quality or

reliability. The application can then identify optimal locations for battery storage systems. When coupled with Landis+Gyr's battery energy storage solution, the utility has an end-to-end solution for DER and microgrid management.

DER Optimizer application addresses these key use cases:

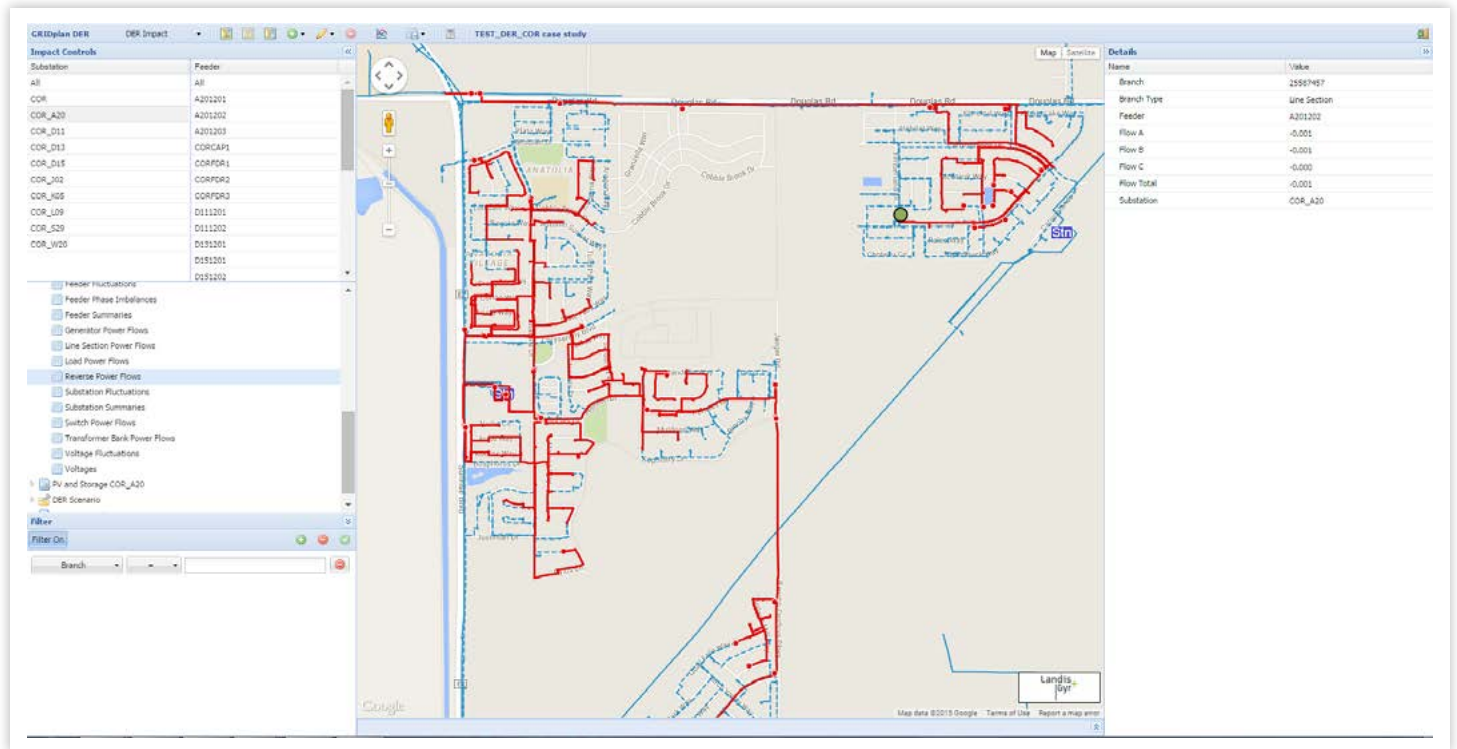
- Demand response and direct load control programs
- Distributed generation location optimization
- Photovoltaic supply balancing
- Distributed storage placement and utilization
- Electric vehicle infrastructure management

The browser-based, dynamic user interface offers exportable reports and geospatial visualization of full distribution connectivity model and grid assets by utilizing Google Maps™ mapping service. The database and analytical capabilities allow interactive, color-coded, geographic display of DER locations, DER impact and storage solutions by substation and feeder.

FEATURES & BENEFITS:

Why Landis+Gyr makes a difference.

- Replicate distribution network virtually
- Simulate "what if" scenarios for different levels of DER penetration
- Save significant time and effort conducting DER impact analysis and identifying solutions
- Design optimal procurement and placement strategy for distributed energy storage units
- Address impacts of siting, integration, operation and dispatch of DER on the grid



Sample Screenshot: DER Optimizer Application – reverse powerflow due to significant photovoltaic penetration

Platform

The grid analytics solution consists of a powerful enterprise platform and modular, web-based, user friendly applications. The platform enables utilities to leverage data integration, visualization and advanced algorithms for multiple analyses and benefits. Given the modular nature of the applications, as needs change or grow, the same platform and data can be utilized, leveraging economies of scale and eliminating data silos and the need to manage multiple vendor systems.

People

Landis+Gyr’s professional services team offers a unique combination of power system engineers, subject matter

experts, software and technology architects and integration specialists. By leveraging Landis+Gyr’s proven and best in class implementation methodology and standard-based adapters, utilities can start realizing benefits quickly.

Pathway

Landis+Gyr provides various deployment options that are cost-effective, robust, scalable and meet service levels now and in the future. The solution can either be deployed at the utility’s data-center or hosted at Landis+Gyr’s cloud-based, secure and SSAE-16 compliant Network Operations Center.

Specifications

Supported Operating Systems	Windows or Linux
Recommended Memory	32GB RAM
Required Third Party Licensing	Google Maps API Corporate License and Optional Mongo DB Enterprise License
Interface Standards Supported	CIM, MultiSpeak, DNP3/ICCP, GIS Shape files and other file based formats
Pre-built Adapters	Landis+Gyr Command Center, USC and MDMS; CYME, ESRI GIS
Data Types Required	AMI data, connectivity model, DER related data