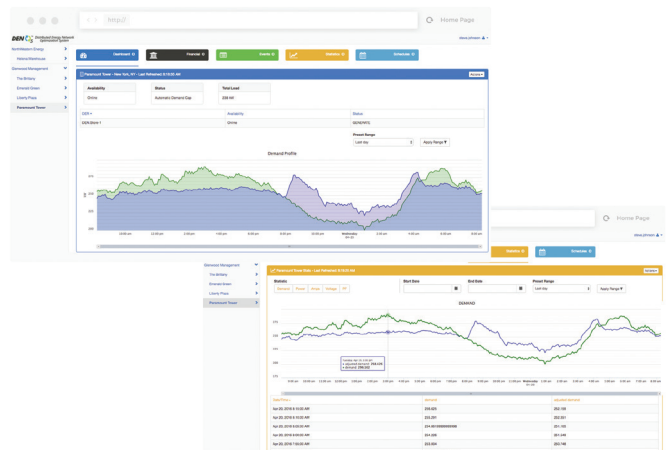


Distributed Energy Resources Optimization Software

Enel X's DER Optimization Software is a highly scalable, management software system delivered as a managed service on a subscription basis. Our DER Optimization Software enables you to monitor, communicate with and control your energy network. The system interfaces with distributed energy resources to monitor energy usage and production in real time.

Our software is comprised of two components, one cloud-based and one site-based, that interface with other software systems and hardware devices in a holistic energy management ecosphere.



Cloud-Based Energy Management Platform

Our cloud-based energy management platform controls system wide operations. It directs the activities of the hardware platform and integrated energy management devices. It monitors load, directs energy storage operations, and building energy management from a central user dashboard.

- > Management across the entirety of the customer's energy assets
- > Manages automated decision making
- > System wide analytics
- > Network Optimization Engine (NOE) and automated decision making across the entire asset portfolio
- > Adaptation layer provides integration to back office systems, power markets, grid tied renewables and metering systems for redundancy with the core and scalability
- > Interconnects grid tied renewables, back office systems, metering systems and power market pricing schedules

Site Level Controls

Our localized site control system directs DER storage and other DER operations at a specific site.

- > Resides on the building/site premises
- > Directs building and DER operations/management
- > Provides for local real-time decision making and local management of the systems at a building or a site
- > Site Optimization Engine (SOE) optimizes economics of site DER assets
- > Interfaces with building energy management devices for integrated communications & controls
- > Flexible adaption layer allows for the integration of a wide array of hardware devices and software systems, enabling data collection and management of these assets
- > Local data store provides fault tolerance & data buffering to deliver a "lossless data stream" if connectivity to the internet is lost

Description

Our DER Optimization Software is delivered as a managed service.

- > DER Optimization Software is a next generation energy management platform designed as a fundamental building block for site energy management
- > Intelligently adapts, interfaces and embraces emerging technologies & solutions
- > No software upgrades to manage
- > Minimizes IT infrastructure & OA&M costs
- > Distributed architecture designed for scalability and reliability

Our DER Optimization Software is a highly scalable management system with real-time reporting and service assurance capabilities.

- > Next generation architecture
- > Flexible / scalable / adaptable / secure
- > Operations user interface (alarms, statics, history)
- > Open and adaptable systems integration
- > Interface provides a full, feature-rich browser-based GUI requiring no special plug-ins
- > Open API for 3rd Party systems integration

Interface Features Available

Tiered Navigation

- > Aggregation of tiered resources
- > Account > Site > DER
- > Manage all assets through one interface

Device View

- > Current operational status/mode
- > Charge/Generate operations
- > Communications health check
- > Battery State of Charge (SoC)

Events & Alarms

- > System operational events/alarms
- > Environmental events/alarms
- > I/O Events (O/U Voltage/Frequency; safety circuit, door alarm, etc)

Statics

- > Lifetime System and Battery Statics collection
- > KW, KWH, PF, Voltage, Amperage, Temperature
- > Statistical graphing engine
- > Data/graph export options

Scheduler

- > Scheduled operation configuration
- > One-time or recurring scheduled events
- > Selectable operation modes: bulk power, variable demand capping, solar+storage, etc.
- > Review current schedules, past events, edit existing, or create new schedules

System Messages & Feedback

- > Messaging about system outages and/or features enhancements
- > Configuration and system user feedback

Value and Benefits

Reliable & Resilient

- > No single point of failure as the system is fully distributed and fully clustered
- > Ability to spread computing and storage resources worldwide based on disaster recovery plans and data locality needs

Secure

- > No single point to attack within the system
- > Ability to extend customer's LAN into the cloud with a VPN

Flexible and Easy to Deploy

- > System can utilize pre-configured virtual machine instances to bring additional resources online within minutes
- > No software to install on client machines

Reduced Capex & Operation, Administration and Maintenance (O&M) Costs

- > CapEx for server infrastructure is completely eliminated
- > Reduced IT staffing requirements, reduced operating expenses & facilities

Extensible & Scalable

- > Ability to integrate new resources and have them functioning in minutes
- > System can easily be extended to manage new devices

Services

DER Optimization Software Managed Service

DER Optimization Software (Cloud & Site) managed service; requires internet connection from customer network

Dedicated DER Optimization Software Service

Dedicated private managed service requires secure VPN to customer network

Custom Back Office Application Integration

Custom back office application integration is available from Enel X as a service

Custom Device Integration

Offers customer device integration for management of 3rd Party IED's

DER Optimization Software Licensed Solution

Custom licensed solution for 3rd Party integration and DER Optimization