

Europe's largest energy utility implements load balancing for efficient EV charging management

Industry

Energy utility
Distributed Systems Operator

Location

Germany and Western Europe

Solution

Intertrust Platform™

Customer profile

E.ON is one of the largest utilities in Europe and globally, with about 80,000 employees managing their grid and retail businesses across Europe. DigiKoo, their subsidiary and Intertrust's strategic partner, operates their grid data platform which is currently implemented at the largest Distribution System Operator (DSO) in Germany. Intertrust and DigiKoo jointly market the solution to customers globally.

The challenge

A key challenge with efficient integration of electric vehicles into the distribution grid is controllability. The customer needed an efficient way to balance load spikes caused by mass EV charging. They needed to control EV charger load balancing by managing congestion with Charging Station Operators (CSOs). Additionally, they needed to study load consumption patterns across multiple CSO standards and manage loads using one standard OpenADR* interface.

The solution was an advanced demand response system, called Demand Clearing House (DCH). DCH offers a non-discriminatory¹ solution for grid and market participants, which supplements current DSO/CSO tasks with a valuable instrument for sector coupling².

As an independent, trustworthy platform for communication via a standardized interface, the DCH offers a quickly adaptable solution for the cost-effective and grid-oriented integration of e-mobility.

The core function is the ability to consolidate and intelligently control the supply and demand for performance and flexibility from e-mobility charging processes via a single interface, while the current tasks of the DSO and CSO remain unaffected.

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1. Due to the natural monopoly of energy grids, the conditions for grid access must be equal for all grid users. Grid owners must not be in a better (or worse) position than anyone else. If this is guaranteed, network access is "non-discriminatory".
 2. Sector coupling refers to the idea of interconnecting (integrating) the energy consuming sectors - buildings (heating and cooling), mobility, and industry - with the power producing sector. In DCH, sector coupling refers to the connection of the power producing sector to mobility.
- * OpenADR: <http://www.openadr.org>

Intertrust Platform™

The Platform leverages container orchestration technologies such as Kubernetes and Docker to make deployments cloud-agnostic.



Identity and Access Management

Device and user identity, authentication, and authorization; maintains platform objects and their relationships.



Data Virtualization

Data object definitions, permissions, restrictions. Provides data interfaces, manages DBs and virtualized datasets.



Secure Execution Environments

Secure network-isolatable environments for workload execution and controlled, interactive data exploration.



Time Series Database

Scalable, efficient, high performance database designed for time series data.

The solution

The customer chose the Intertrust Platform, which facilitates secure data exchanges and collaboration between businesses and partners, allowing them to secure, govern, and monetize their data, across any cloud service or infrastructure.

The platform can be deployed in all the major cloud services (AWS, Azure, Google Cloud) as well as private data centers and on-premises enterprise networks. It leverages container orchestration technologies such as Kubernetes and Docker to make deployments cloud-agnostic.

The results

The Intertrust Platform helped the customer securely exchange data and collaborate without moving data around or copying it to a new location. By using secure data virtualization and an ability to operate using industry standard communication protocols, the customer was able to:

- Consolidate and intelligently control supply and demand for performance and flexibility from e-mobility charging processes via a single OpenADR interface.
- Implement a non-discriminatory solution for grid and market participants, supplementing current DSO/CSO tasks with a valuable instrument for sector coupling.
- Adopt an independent, trustworthy platform for communication via a standardized interface.
- Implement a secure Demand Clearing House enabling CSOs to send consumption data from various charging points.

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the connected world.

Learn more at: intertrust.com/products/energy-data-ops
Contact us at: +1 408 616 1600 | energy@intertrust.com

Intertrust Technologies Corporation
920 Stewart Drive, Sunnyvale, CA 94085

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