

SOLUTION BRIEF

Scalable DER orchestration with Intertrust Connect

Connect and control any
DER through one interface



Building trust for a connected world.

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The evolution of DERs

The shift from centralized to distributed energy

The global energy sector is undergoing a fundamental transformation as centralized power generation models give way to distributed energy resources (DERs) such as solar panels, battery storage, and electric vehicle chargers. This shift is driven by the growing need for grid resilience, cost efficiency, and decarbonization goals.

Governments and industries are embracing the change, and renewables are scaling fast. But turning that growth into a working program means addressing operational complexity, real-time coordination, and connectivity across many manufacturers.

This transition is shaped by three major trends: Decentralization, with more energy assets being deployed at the grid edge; Decarbonization, as renewables replace fossil-fuel-based generation to meet aggressive emissions targets; and Digitalization, where AI, automation, and data-driven decision-making enable more efficient grid operations¹.

The need for a unified connectivity layer

The value in these assets is unlocked only when an operator can reach and control them, and today most of that capacity stays underused. The fragmented state of DER ecosystems and the lack of standardized integration make direct reach hard for VPP operators, energy providers, and asset owners.

AI-driven optimization is where much of the upside sits. With clean, real-time data an operator can predict grid constraints, balance loads, and automate dispatch, but that optimization is only ever as good as the connectivity feeding it.

What scaling actually requires is one connectivity layer that unifies fragmented assets and gives operators real-time reach and control. Without it, DER programs stay expensive, slow, and hard to scale.

**One interface
to any DER
from any
manufacturer**

**Plug any in
OEM without
re-integration**

**Market-proven
with device-
level control**

References

1. *Renewable Energy Passes 30% of World's Electricity Supply (2023)* - The Guardian

Key challenges in DER orchestration

Roadblocks to scaling DERs

Scaling a DER program from a pilot to production is where the value is, and where the difficulty starts. The same growth that makes a fleet worth operating makes it harder to connect, command, and keep running as assets, manufacturers, and protocols multiply. Four problems account for most of that difficulty, and each grows with the fleet rather than easing as a program matures.

• The integration tax

Connecting a fleet means hand-wiring a proprietary connection to every OEM cloud, each its own project with its own protocol and compliance work. It repeats per device type and ties up engineering that belongs on the core product..

• Complexity that grows with the fleet

Wiring six batteries by hand is fine; at 5,000 or 50,000 it collapses. Without a unified layer there is no single way to command a mixed fleet.

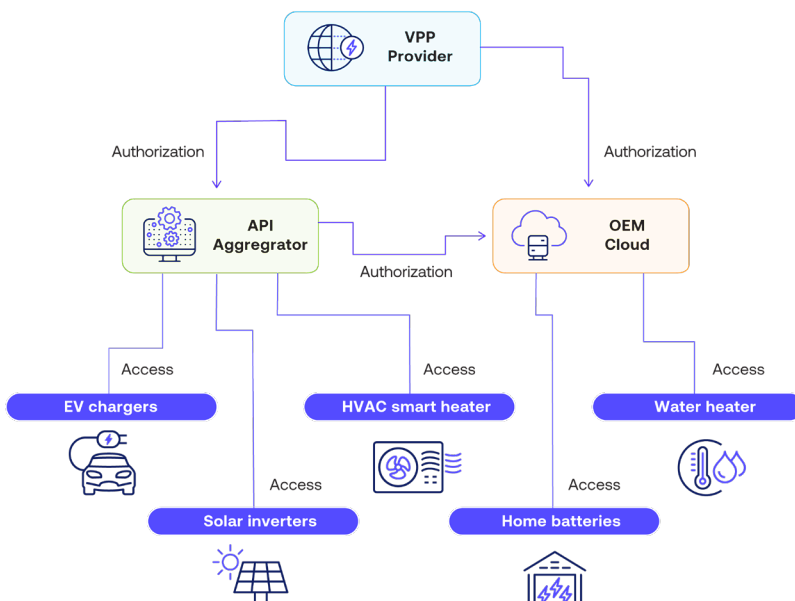
• Lock-in and stranded assets

When an OEM changes or drops its cloud service, fails, or is blocked, the connections built around it break and the assets strand. The operator carries that risk.

• Aggregator dependence

Routing access through a third-party aggregator means ongoing fees and reliance on a partner whose interests may diverge from yours, and some drift upstream to compete with their own customers.

Together these raise operating costs, slow expansion, and keep operators from fully monetizing assets they already own. Left unaddressed, they are what keeps a DER program stuck in small pilots instead of scaling into full, revenue-generating operation.



← Connecting to DERs through API aggregator is cost-prohibitive.

← VPNs, firewalls, and authentication are challenging to configure and costly to maintain.

← Millions of devices in untrusted networks create a huge attack surface.

The Intertrust Connect solution

Secure, scalable, AI-ready connectivity

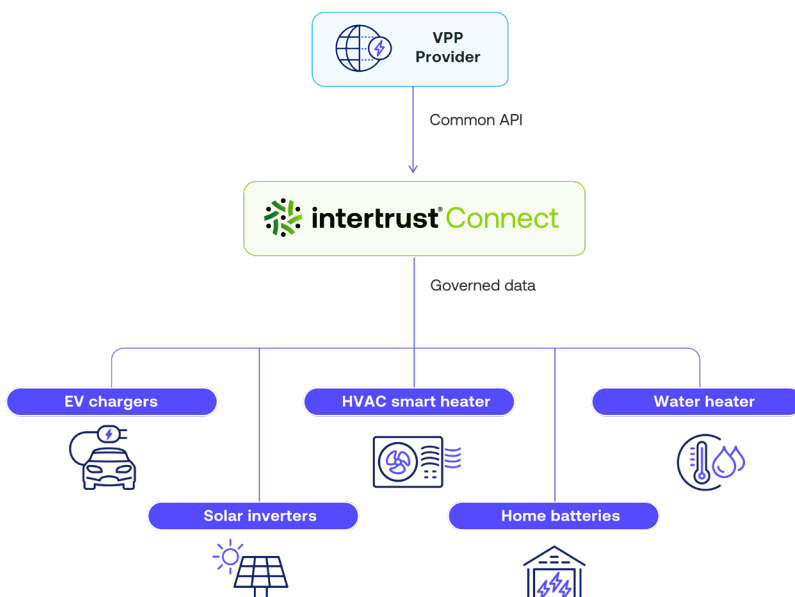
Intertrust Connect is a secure, scalable platform purpose-built to simplify the connection, monitoring, and control of DERs across diverse device ecosystems and technology platforms. By eliminating the need for custom integrations, reducing operational complexity, and enabling trusted data flows, Intertrust Connect provides the essential foundation for seamless DER orchestration.

The following capabilities empower utilities, VPP providers, and asset owners to efficiently scale and manage their DER programs:

- Seamless DER connectivity**
 Provides a single, secure integration point for connecting DER assets, eliminating custom one-off integrations and reducing ongoing operational complexity.
- Real-time data and control**
 Ensures real-time access to telemetry, performance data, and device status, empowering utilities and flexibility program operators with granular visibility and control over individual DER assets.
- Cost-effective scalability**
 Replaces per-OEM integrations and third-party aggregators, allowing greater scale, letting you plug in any OEM, avoiding lock-in.

- Enhanced security**
 Built on Intertrust's decades of leadership in device identity and data protection, Intertrust Connect ensures end-to-end encryption, authentication, and secure data governance.
- Interoperability across devices**
 Supports 99% of major DER OEMs, covering solar, storage, EV charging, HVAC, and other distributed assets. Its protocol-agnostic design ensures seamless compatibility, avoiding vendor lock-in and future-proofing DER programs as technologies evolve.

Connect turns DER integration from a costly, one-off process into a scalable foundation the operator controls. Whether the goal is broader visibility, lower integration cost, or a base for AI-driven optimization, it lets operators gain the full value of their DER investment without handing control to an aggregator.



Intertrust Connect provides the essential foundation for seamless DER orchestration.

Key advantages

Why Intertrust Connect stands out

Intertrust Connect's biggest advantage for VPP operators, energy providers, and asset owners is ownership. Unlike aggregators that sit between you and your assets, it gives direct, device-level telemetry and control across the whole fleet, so you optimize performance and respond to grid events without an intermediary.

The real question at scale is build versus buy. Building and maintaining OEM connections in-house is complex and resource-heavy, and it does not scale; it moves the work onto your own engineers rather than removing it. Connect does that work for you, at lower cost and more reliably, and the case only strengthens as the fleet grows.

If you buy, buy from a partner that stays in its lane: Intertrust sells connectivity only and never goes upstream to own assets or run a VPP against its own customers.

Because any OEM plugs in or out without re-integration, leverage on price and supply stays with you rather than the vendor. Hardware gets chosen on merit, and the program keeps running when a manufacturer comes or goes.

Underneath, every connection is authenticated and access is controlled at the device level, so the real-time data feeding your optimization and dispatch is authorized and auditable. For programs leaning on AI, that provenance is what makes the outputs trustworthy.

Utilities and VPP providers can maintain full ownership and direct control over their DER connections.





Who benefits from Intertrust Connect?

Benefits of secure, AI-ready DER orchestration

VPP operators, energy providers, and asset owners running growing DER fleets need a cost-effective, scalable way to connect and control diverse assets, without the cost of custom integration or dependence on a third-party aggregator.

Connect gives them one interface to any asset from any OEM, freedom to choose hardware on its merits, and a path from cloud-to-cloud today to device-level control when they are ready.

With Connect they scale flexibility programs faster, cut operating expense, and keep their DER strategy viable as device ecosystems change.

Contact us today to schedule a consultation or demo and learn how Intertrust Connect can accelerate your DER program.

Intertrust Connect provides a single, secure connectivity layer that integrates with all major DER OEMs.

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