intertrust®

A trusted data exchange platform to enable data-driven businesses

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Executive summary

We are witnessing a data explosion—data is doubling every two years, with worldwide data projection to grow to 175 Zettabytes by 2025. It's estimated that every connected person in the world (75% of the population) will have a digital data engagement over 4,900 times per day, or once every 18 seconds.

Businesses want to control, govern, and monetize their massive troves of data. But how can sensitive data be shared in a world of frequent, high-profile data breaches, and misuse? How can the data be acted upon, without moving it, without corrupting it, and while still protecting owners' rights?

Businesses need to have the right tools to explicitly define the scope of access for every user. Too little control on data exposes the business to unnecessary security risks. Too much control limits the return from the value of the data. Data access needs to be managed with granular security policies based on users' roles, needs, and regulatory requirements. Sharing insights from existing data is important, but it has to allow for flexibility, scale, and security.

To be truly effective, a trusted data rights management platform needs to:

- **Allow** and facilitate users, applications, and databases to authorize, control, and protect their data with fine-grained control.

- **Facilitate** a governed environment that allows computations and analytics workflow development by authorized users, without moving data.

- **Grant** users access only to the data they actually need, nothing more.

- **Secure** the data with audit features to report on who or what device, app or service accessed or used which piece of data, when, why, and how.

Luckily, a solution exists to address these challenges, in the form of the Intertrust Platform.

The Intertrust Platform

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

Data virtualization

The core Intertrust Platform makes it easy to build and run data-intensive applications securely. Data usage is enabled across silos without the need for re-engineering or moving large amounts of data to new systems. Developers can write applications that integrate with the system using various APIs. The platform can provide comprehensive authentication, authorization, and data access features to any application via industry standard protocols.

Data governance

Compliance management in the Platform allows enterprises to:

- Establish individual and aggregate-level compliance management
- Record and modify consent

- Understand when, how, and where consent was obtained
- Update consent in real time
- Apply consent to data generated post analytics, like predicted intent

Intertrust ensures compliance with opt-out and 'right to be forgotten', 'audit and monitor to verify compliance', and other governance features.

Secure execution environments

Intertrust enables organizations to implement a governed execution environment to secure, govern, and monetize their data, seamlessly and without disruption. This exchange can be internal or external—within their organization, with partners, customers, and other identified stakeholders. With the Intertrust Platform, data remains secure, usable, and interoperable.
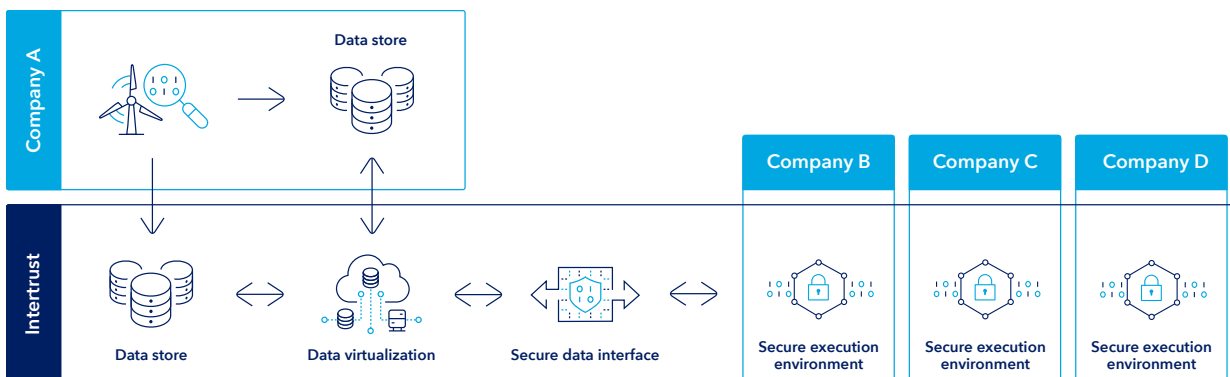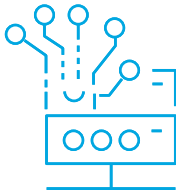
Data virtualization

- Eliminates the need to duplicate data across an organization or consolidate data into a single warehouse.

- Enables you to securely govern, process, and exchange data across datastores and work with diverse data types and formats.

Data governance

- Enables granular control of consent down to a dataset row, column, or a single cell, to grant (or deny) access to data for specific accounts, groups, or organizations.

- Enforces all requests for data to go through the rights and permissions set by the data owner.

Secure execution

- Enables data owners and analytics providers to work together without exposing intellectual property.

- Enables an isolated governed execution environment for the deployment of data-driven services and computational workloads.
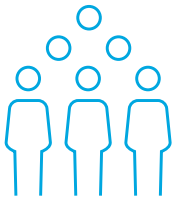
Key features and business benefits
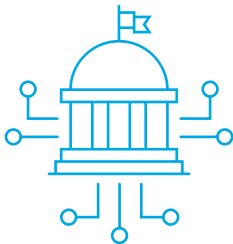
Authorize

- Securely blend, process, and exchange data across different datastores with fine-grained access policies with data rights management
- Maintain operational control of your data
- Enable centralized authorization across various datastores

Interoperate

- Enable secure workflow environments in a PPE (Protected Processing Environment)
- Develop advanced analytics applications and data exchange partnerships
- Securely share data within your organization or with third parties

Govern

- Query from any application and get controlled results based on authorities and policies
- Aggregate data, process personal data at the individual level, and distinguish data ownership between first, second, and third-party data
- Significantly reduce the cost of data storage and querying

Audit

- Enforce policies such that users can only access the data they need, without compromising compliance or security
- Enact policy-driven data governance without sacrificing accessibility
- Comply with privacy regulations and safeguard your customers' data

Industry examples

**From energy and electrified transportation to parameter-based insurance to automotive data processing, the Intertrust Platform provides businesses with role-based access control and facilitates a perpetual protected processing environment.
It allows for data interchange and collaborative analytics creation.**

Renewable energy

Renewable energy plant operators generate large volumes of data, but often lack the data processing workflows to properly analyze and transform that data into actionable insights. Over 50% of operators manually construct spreadsheets for reporting purposes. Plant operators typically interact with a variety of software systems to effectively manage their portfolios and operations. Integrating these diverse systems is often a significant interoperability challenge.

Intertrust helps renewable energy owners and operators securely manage and distribute their data. Data may also be shared with trusted partners and third parties such as OEMs, municipalities, regulatory bodies, contractors, or other service providers. The Intertrust Platform allows energy companies, Independent Power Producers (IPPs) and energy asset owners to securely share insights from or enable access to controlled parts of their data to multiple internal or external stakeholders.

The Intertrust Platform enables:

- **Project planning, design, and engineering:** Site analysis, EV charger installation planning, grid integration, power commercialization, feasibility surveys, and more.

- **Procurement:** Foundation optimization, logistics planning, power integration optimization, O&M service level agreements, and more.

- **Operation and Maintenance (O&M):** Integrated control room operations monitoring and reporting, power output forecast, yaw/pitch performance for wind farms, predictive maintenance, re-power analysis improvement, claim management, fire-risk monitoring.

- **Management:** Financial performance, intelligent dashboard screens and renewable energy yield cover insurance.

- **Performance:** Integrated data flows provide the ability to correlate events from different information systems and increase performance and reduce risk.

Example:

Intertrust's Powerboard product helps offshore wind farm operators by allowing them to make their operations control room mobile, flexible, and customizable.

For more information, please visit Intertrust's Powerboard site, or contact your Intertrust account manager.

"A fossil fuel plant generates about 10,000 data streams per MW, but a wind project's turbines generate about 51,000 data streams per MW and a solar project's panels and electronics generate almost 436,000 data streams per MW."

Utility Dive

Electrical grids

Energy systems are becoming decentralized and increasingly complex, while margins for electrons are decreasing. Electrical grids are heavily regulated, with very low annual losses allowed. At the same time, end customers have begun to generate their own energy. As a result, the new grid is bi-directional, for both electricity and data.

New privacy regulations are driving the need for complex management. Grid data and documentation is often stored in different databases, locations, and in different formats, each with their own interfaces and access rules and rights. This has made grid data orchestration and management a very complex problem.

With Intertrust, you can manage users, permissions, policies, and groups across all organizations and partners—government entities, DSOs, retail organizations, service providers, and more. The Intertrust Platform allows you to process data from all your IT (Information Technology) and OT (Operational Technology) networks in a single environment to execute your plans, securely and with confidence.

The Intertrust Platform enables:

- **Control:** Grid management and maintenance scheduling.

- **Expansion:** Planning energy transformation and new power generation deployments.

- **Collaboration:** Feasibility analysis of market demand for residential solar, EV charging stations, street lighting, etc., by collaborating with multiple relevant stakeholders and partners.

- **Scalability:** Efficient, collaborative smart grid and load balancing.

- **Security:** Improved cybersecurity for intrusion detection and effective response.

VPPs aggregate customer-owned flexible energy capacity and available DERs to turn them into cash generating opportunities. VPPs are as much about intelligent software systems as they are about managing electricity 'behind the meter,' and is a market that is expected to be worth $4.5B by 2023, a growth rate of 26% CAGR.*

*Source: Allied Market Research

Home IoT

Connected door locks, thermostats, security cameras, and other smart home devices all generate a tremendous amount of data that can be used to create new innovative services. However, this opens the door—figuratively and literally—for illegal data access. As smart devices become more mainstream and enter the consumer landscape, it becomes important to safeguard how and what consumer information gets shared with manufacturers and service providers.

With Intertrust, you can create smart home ecosystems that provide governed access to your customers' data, ensuring their sensitive information is both secure and only viewable by authorized parties. The Intertrust Platform allows you to build smart home services that meet all applicable privacy regulations and give your customers the confidence that their data is handled appropriately and securely.

The Intertrust Platform enables:

- **Security:** Secure APIs that enable connectivity between third-party devices and service platforms. It enables service providers to configure and deploy data-driven services in your ecosystem without compromising customer data.

- **Computation:** Processing hundreds of thousands of API requests in real time with the Platform's high-performance data processing and management module.

- **Authentication:** Ensures that all devices use best-in-class certificate authority using Intertrust Seacert™ PKI services.

- **Consent:** Letting consumers easily opt in and out of services and configure the use of their personal data by third parties.

- **Expansion:** Allows the secure addition and management of smart-home-adjacent devices such as battery-based energy storage systems (BESS), EV charging units, rooftop solar photovoltaic systems, and electric vehicles.

"There will be 20B connected IoT devices by 2022."

Ericsson Mobility

Automotive

By 2020, estimates are that nearly 2.3 billion connected devices will be found in cars and trucks worldwide. The wealth of data transmitted by these devices will be the raw material for the products and services defining mobility in the future. Combined with the flexibility of a modular design that can handle a wide variety of data, Intertrust gives you the security and built-in policy data governance functionality you need to make this happen.

Connected car data will drive a wide variety of products, services, and business models, from predictive maintenance to targeted advertising to autonomy. The Intertrust Platform can be deployed in a private or public cloud to give you the secure data governance features needed to free up your data so it can be even more useful.

The Intertrust Platform enables:

- **Authorization:** Apply granular policy-based access rights so you can control which stakeholders have access to specific data.

- **Auditing:** Audit trails for all data access events.

- **Authentication:** Intertrust's certificate and software application shielding technology makes sure endpoints are verified and communication is secure.

- **Security:** An analytics sandbox makes sure that third-party algorithms can only access specific data.

- **Scale:** Scalable and elastic compressed data storage keeps data storage costs low

- **Monetization:** Data marketplace features for monetizing your data (future feature).

- **Searchability:** Query and access available APIs that can manage who can access data (future feature).

"A single autonomous car will generate between 5TB and 20TB of data per day, per vehicle."

Lee Chen, VP Corporate Development and Strategic Partnerships, Fastly

Conclusion

Data is important, but when siloed, it's not interoperable and of little business use. Modern data-driven business models require secure collaboration with internal and external partners.

The Intertrust Platform is a flexible and controllable data exchange platform that securely operationalizes data collaboration. Intertrust enables companies to build trusted, interoperable third-party data analytics services, using thirty years of expertise and inventions in digital data rights management technologies.

intertrust®

**Building trust for
the connected world.**

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