Entrust Tokenization Solution

Protects sensitive data with format-preserving encryption and data masking

HIGHLIGHTS

- Pseudonymizes and masks sensitive data while maintaining data format

- RESTful API enables integration of multiple programming language environments and reduces development effort and lead time

- Strong key protection using FIPS 140-2 and Common Criteria certified Entrust nShield® Hardware Security Modules (HSMs)

- Highly-scalable microservices architecture

- Supports multiple character sets, including alphanumeric, numeric, numeric-Luhn, Chinese, Japanese, Korean, Thai, Vietnamese, and more

The challenge: pseudonymize and mask data while preserving format

Enterprises need to protect sensitive data and reduce the scope of compliance audits by obfuscating data, so it is meaningless to anyone who might steal it. However, these enterprises frequently need to maintain the format of the data, so they can work with it in ways that don't require some or all of the data in clear text. Traditional data encryption cannot preserve the data's original format or support data masking.

The solution: Entrust tokenization

The Entrust tokenization solution can pseudonymize data while preserving its original format and supporting data masking. Tokenization is particularly useful for cloud applications, because data can be tokenized before being sent to the cloud. This helps data owners maintain agility while complying with personal data protection regulations.

The Entrust tokenization solution, delivered by the Entrust professional services team, converts plain text data to format-preserving tokens that cannot be traced back to the original data except through secure de-tokenization. The underpinning cryptographic keys are protected by FIPS 140-2 and Common Criteria certified Entrust nShield® HSMs, and the solution is designed to fulfill the compliance requirements of personal data protection laws.

Entrust Tokenization Solution

Tokenization Data Flow
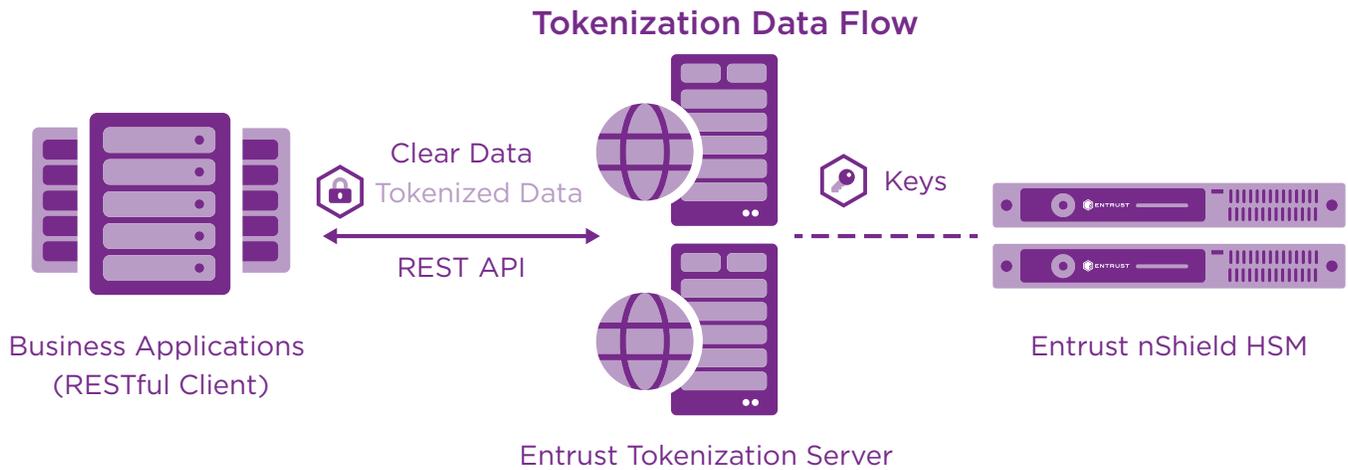
Plain text data is converted to format-preserving tokens with the underpinning cryptographic keys protected by certified Entrust nShield HSMs.

The solution supports masking for instances where users and processes need to export data to third parties where sensitive information can be masked for privacy purposes.

The Entrust tokenization solution is a RESTful web service running on both Windows and Linux platforms. Administrators can configure tokenization profiles with a web UI, and application developers can integrate the solution with RESTful APIs. Implemented as a microservice, the solution is a self-contained package that is simple to deploy, manage, and maintain, and provides performance and scalability to an unlimited number of servers.

As an additional security control, the solution provides detailed logging of common operations (e.g., tokenization, de-tokenization, masking, etc.), as well as audit logging for critical operations (e.g., failure attempt or amending tokenization settings).

Cloud-ready application

The Entrust tokenization solution is a cloud-ready application. Thanks to the microservice architecture, it requires minimal resources to put into operation. Or it is easy to scale up the performance by assigning more system resources (e.g. CPU cores). With the help of a load balancer/API gateway, multiple instances of the Entrust Tokenization Server (ETS) can be built as a cluster to serve REST API requests.

Entrust Tokenization Solution
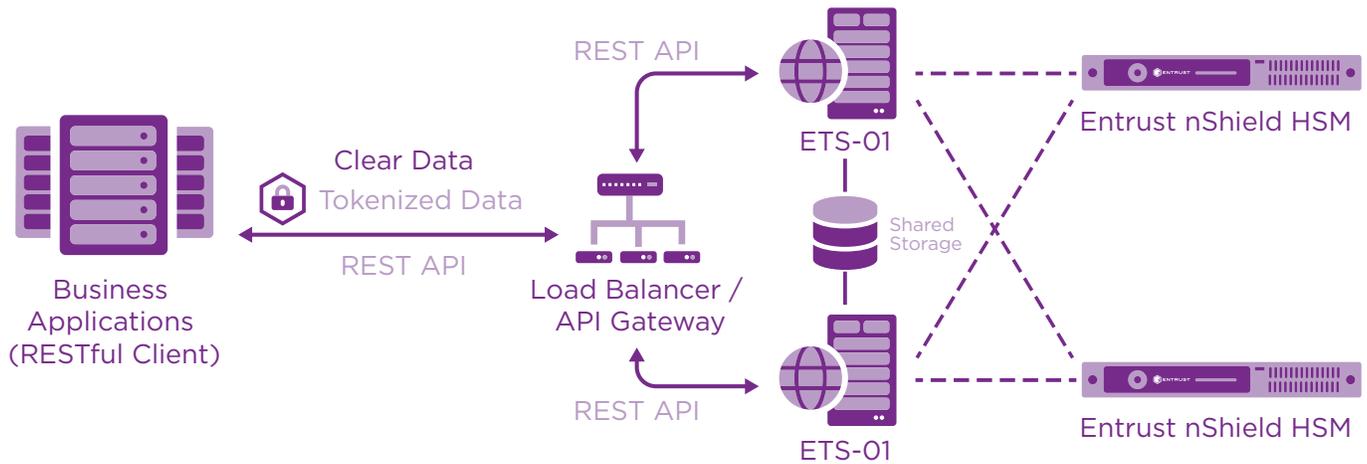
Using the microservice architecture, the tokenization solution requires minimal resources to be operated in the cloud.

The Entrust professional services difference

With decades of experience, the Entrust Data Protection Solutions (DPS) professional services team offers unmatched expertise in designing and implementing crypto applications for the world's most security-conscious organizations. Entrust DPS professional services consultants work closely with clients to design and deploy the right solution for their unique environments and to leave their teams with the knowledge to maintain it for years to come.

Learn more

To find out more about Entrust nShield HSMs, visit **entrust.com/HSM**. To learn more about Entrust's digital security solutions for identities, access, communications, and data, visit **entrust.com.**

To find out more about Entrust nShield HSMs:

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ABOUT ENTRUST CORPORATION

Entrust keeps the world moving safely by enabling trusted identities, payments and data protection. Today more than ever, people demand seamless, secure experiences, whether they're crossing borders, making a purchase, accessing e-government services or logging into corporate networks. Entrust offers an unmatched breadth of digital security and credential issuance solutions at the very heart of all these interactions. With more than 2,500 colleagues, a network of global partners, and customers in over 150 countries, it's no wonder the world's most entrusted organizations trust us.

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