Magensa Tokenization Services

Tokenization Platform-as-a-Service

Service Overview

Magensa Tokenization Service is a cloud-based, data protection service supporting the generation, transport and redemption of dynamically generated tokens that can be easily integrated into any application or business process. Major features include:

Dynamic Tokenization

Tokenization is the process of replacing sensitive data with unique identification symbols that retain all the essential information about the data without compromising its security. It has become the industry standard for securitizing all types of sensitive information. Magensa Tokenization Service provides a unique way of anonymizing and protecting sensitive information using symmetric key encryption for dynamically generated tokens - essentially tokenizing encrypted data. Dynamic tokenization means a unique token is generated every time, which is much more secure than using a static token. Tokens are dynamically generated by a unique encryption key for each token created.

Unique, Vaultless Solution

Magensa's Tokenization Service is vaultless, which means the customer maintains control (custodianship) of the data as an encrypted token. Each individual sensitive data element is cryptographically tokenized with its own unique key for optimal protection. The customer stores the tokens or Magensa will store tokens on their behalf.

Security and Key Management

Magensa's encrypted tokens stand up to the most modern attacks and are resilient to quantum computer hacking techniques. Tokens are created by leveraging symmetric key encryption within a hardware security module (HSM) utilizing AES/3DES encryption by a derived unique key per transaction (DUKPT). Since the merchant does not know or have access to the encryption key, they never have access to clear-text data.

Platform-as-a-Service

Magensa's tokenization is delivered as Platform-as-a-Service (PaaS), a type of cloud computing service that provides a platform allowing customers to develop, run, and manage applications without the complexity of building and maintaining infrastructure typically associated with developing and launching an application. Benefits include faster launch time, less cost and lower operating expense.

Magensa Token Generation and Redemption

Privatize All Sensitive Data

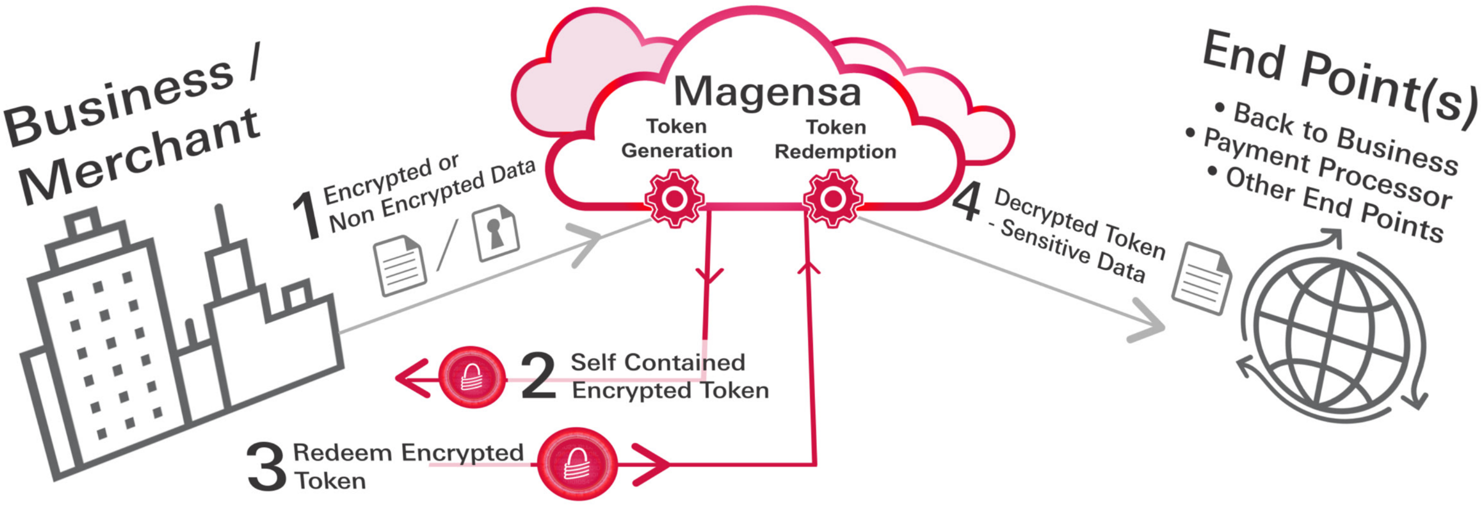
One of the key challenges today both for individuals and corporations is keeping information private to the owner(s) of that information. Sensitive data is any information when disclosed that can result in harm to an individual whose privacy has been compromised.

- **Personally Identifiable Information (PII)** is any data that can identify a person. This sensitive data includes credit card primary account numbers (PANs), social security numbers, email and phone contact information, birth date, driver's license numbers, bank account numbers, etc. Payment data (i.e., PANs) are regulated by PCI-DSS.
- **Protected Health Information (PHI)** is a specialized form of PII data that includes anything used in a medical context that can identify patients, such as health history / medical records, health insurance information, etc.

Sensitive data exists in two forms: **Data in-flight or in-motion** transverses a network, e.g., as transmitted during the transaction authorization process or resides temporarily in computer memory to be read or updated. **Data-at-rest** is active or inactive data stored physically in databases, data warehouses, files, spreadsheets, archives, tapes, off-site backup, etc. All sensitive data is at risk, if unprotected. There is also an inherent data security challenge in sharing databases with third parties.

How It Works

Magensa Tokenization Services anonymize and protect all sensitive data – whether in-motion or at-rest – by generating and redeeming dynamic tokens. By taking sensitive data out of the equation completely, customers achieve overall enhanced security. Here's how it works:



Sensitive data is sent to Magensa for token generation. Magensa creates tokens, encrypts them, and sends them back to business to hold. When the tokenized sensitive data needs to be viewed or processed, the business sends the encrypted tokens to Magensa for decryption and return. Alternatively, the data can be securely forwarded to other end points, e.g., third party processors, etc.

Implementations and Applications

Tokens can be used in many environments to secure all sorts of data set types. Magensa Tokenization Services are implemented in a wide variety of payment and non-payment environments, providing enhanced security, and the flexibility you need for your expanding infrastructure.

In the payment environment

A user account is setup to access the **Magensa Payment Protection Gateway Service** or **Decrypt and Forward Service** and a request is made through these services to create and redeem tokens based on the payment application.

In the non-payment environment

A user account is setup to call the **Token Web Service** directly to intentionally perform Token Generation and Token Redemption operations.

Tokens for Payment Processing

Various payment processes are typical use cases for Magensa Tokenization Service including masking card-on-file, tipping, and authorization and capture data.

Tokens to Reduce or Remove PCI Scope

When cardholder data (PAN and expiration date) is encrypted at the time the card is swiped and then a token is returned for settlement purposes, the merchant significantly reduces PCI-DSS scope. Since the merchant does not know or have access to the encryption key, they never have access to clear-text data.

Tokens to Cloak Sensitive Data for Analytics

Advanced analytics have become a powerful tool for organizations to improve both top and bottom lines. The data inputs for these engines can include sensitive data that should not be exposed to analysts or others in the organization. Tokens are an excellent solution to cloak sensitive while still providing valuable data to analytics tools to provide actionable information.

Tokens to Securitize Data-at-Rest

Vast quantities of information reside in data warehouses and repositories. By replacing sensitive data with tokens which have no extrinsic or exploitable meaning or value, the content in these databases is protected from compromise. Compared to encryption, tokenization lowers processing and storage requirements thereby making it an ideal method of securing large volumes of data at-rest.

Tokens as a Secure CRM Tool & Know Your Customer (KYC)

Tokens are used for customer relationship management purposes. Instead of cardholder data, tokens are an excellent alternative to track the transaction process and use this information to better serve and market to an organization's customers, thereby providing unique, personalized engagements.

Magensa tokens are highly secure and deliver the flexibility needed in a vast array of applications. In general, any sensitive data that needs to remain private (until requested or instructed by the owner to utilize it) is an excellent candidate for tokenization.

Magensa Suite of Services

Magensa provides software developers with a wide range of innovative tools and services for authentication, data security, and identity management. Using Magensa encryption/decryption services, tokenization, payment gateway services and APIs, ISVs and integrators bring their applications to market faster and more securely.

Magensa's distributed, end-to-end security and privacy solutions have been trusted by commercial, financial and government enterprises for years, and without compromise. Privatize Sensitive Data with Integrity.

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Serving enterprises globally, Magensa provides a wide range of innovative tools and transaction processing services for authentication, cryptographic security, and privatization of sensitive data. Magensa's encryption/decryption services, payment gateway services, tokenization services, remote services, and applications are used by software developers, ISVs and systems integrators to bring their applications to market faster and more securely. Magensa's services and solutions are trusted by commercial, retail, financial and government enterprises without compromise. Magensa, LLC is a subsidiary of MagTek, Inc.

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