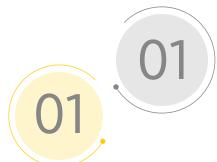
Tokenization and Encryption



Tokenization and encryption are frequently cited as ways to safeguard information while it is being transferred over the Internet or kept at rest.

Encryption

Using an encryption algorithm and key, it mathematically converts plain text to encrypted text.



Tokenization

Generates a token value at random for plain text and stores the mapping in a database.

Scales to massive data volumes while requiring only a small encryption key to decode data.



Difficult to scale securely and maintain performance as the database grows in size.

Used for both structured fields and unstructured data, such as whole files.



Used for structured data fields such as credit cards/payment card or Social Security numbers.

Ideal for transmitting sensitive data with third-party recipients having the encryption key.



It is difficult to exchange data since direct access to a token vault mapping token values is required.

Format-preserving encryption algorithms have a smaller strength.



Format can be maintained without any diminished strength of the security

The original data leaves the organization, but it is in encrypted form.



Original data never leaves the organization, satisfying certain compliance requirements

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