

eperi Test Data Generation Tool: Product Information

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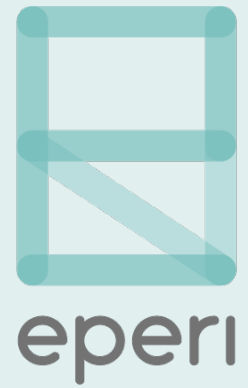


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SOLUTION OVERVIEW

The eperi Test Data Generation Tool is designed to desensitize data in a database or data which is sent to a web service by replacing original field values with token values. This process is called "tokenization". It is a function of the eperi Gateway and can be flexibly adapted to your needs.

The following graphic gives an overview of how the Test Data Generation with the eperi Gateway works.

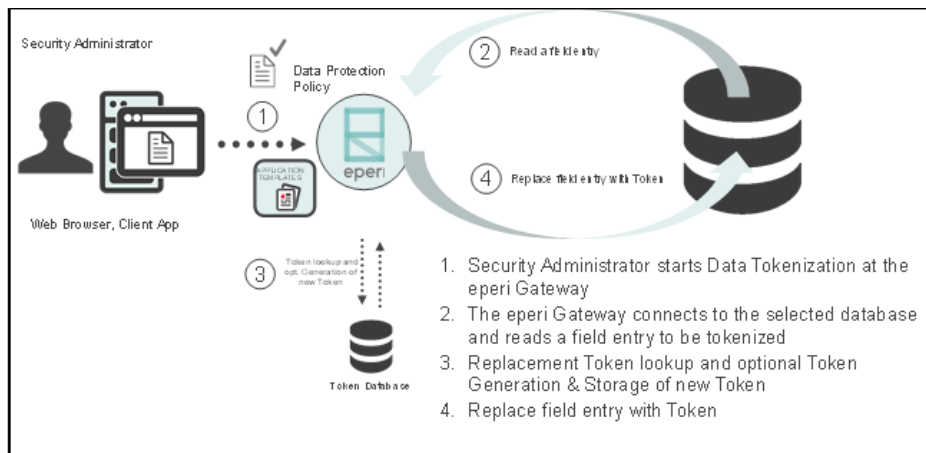


Figure 1: eperi Test Data Generation Tool - Overview

After a Security Administrator has configured the data protection policy, he starts the data tokenization via the web-based Admin Console (1). The eperi Test Data Generation Tool connects to the selected database and reads a field entry to be tokenized (2). In the token database, a corresponding token is searched or, optionally, a new token is generated (3). Finally, the original field entry in the target database is replaced by the token (4).

FEATURES

The eperi Gateway provides the following features targeted to de-sensitizing data:

In-Database tokenizer

With the In-Database tokenizer, data that resides in databases can be de-sensitized by tokenizing the values inside it and writing them back to the same or a different table (/database).

You may configure the following:

- > which data in the source table should be tokenized
- > which tokenizers should be applied to the source data
- > the source and destination database and tables
- > if values should be replaced with tokens in the same table (option "inTable Replace")

The feature can be used with all supported databases, see [Database requirements](#) on page 7.

Exception: The option "inTable Replace" can currently only be used with the following databases: MySQL/MariaDB and DB2.

SOAP tokenizer

The eperi Test Data Generation Tool provides a SOAP web service for tokenizing and de-tokenizing data.

The web service provides the following methods:

- > Tokenizing a CSV file
- > Detokenizing a CSV file

- > Tokenizing individual values
- > Detokenizing individual values
- > Starting an In-Database tokenizer job

The integrity of the internal SOAP API is checked by a digital software signature. The external API (SOAP over HTTPS, called "WSDL API") is protected by Two-Way-SSL.

Token profiles

For the tokenization so-called token profiles are used. A token profile defines the rules by which an initial value is converted into a token value. The eperi Test Data Generation Tool comes with a set of default token profiles, see the [Reference of default token profiles](#). In addition, you have the following options:

- > Define your own token profiles based on the default tokenizer methods.
- > Define so-called "pattern tokenizers": With a syntax similar to regular expressions you can describe a custom pattern for the tokens to be generated. Example: Define a pattern tokenizer so that tokens are generated as follows: <first three characters of the input value> + <five more characters, with the first character randomly selected from the range between a-z, the second character from the range between 0 - 9, etc. ...>

Web-based Admin Console

The eperi Test Data Generation Tool is administered via a web-based Admin Console with the following functions:

- > Application Configuration
- > In-Database / SOAP tokenizer Configuration
- > Token Profile Configuration
- > License Management
- > Key Management
- > HSM Configuration
- > Backup and Recovery
- > User Management

Note: Starting and stopping the eperi Test Data Generation Tool can be done by appropriate commands on the command line.

REFERENCE OF DEFAULT TOKEN PROFILES

Here you will find information about the default token profiles available in the eperi Test Data Generation Tool.

In addition to the default token profiles, you can define your own token profiles.

Table 1: Default Token profiles

Token profile name	Description	Example of tokenized field value
CreditCard	Tokenizes a 16 digit Primary Account Number (PAN) as follows: <ul style="list-style-type: none"> > the first 6 digits remain unchanged > the 7 and 8th digit are randomized > the 9th digit is always 9 > the 10 to 15th digits are randomized 	1234568398973408123 Original value: 1234567812345678123

Token profile name	Description	Example of tokenized field value
	<ul style="list-style-type: none"> > the 16th digit remains unchanged > the remaining digits remain unchanged, if available 	
Date	<p>Tokenizes a date field depending of the input format.</p> <p>The supported date formats are as follows:</p> <ul style="list-style-type: none"> > yyyy-MM-ddTHH:mm:ssZ > yyyy-MM-ddTHH:mm:ss.SSSZ > yyyy-MM-dd HH:mm:ss Z > yy-m-d > yy/m/d > yy-mm-d > yy/mm/d > yy-mm-dd > yy/mm/dd > dd.mm.yy > dd.mm.yyyy > yyyy-mm-dd > yyyy/mm/dd 	22.08.1848
Date-2500	<p>Tokenizes a date field. The date range of the token generated is from 01.01.2500 to 31.12.3000. The supported date formats are the same as those of the <i>Date</i> token profile.</p>	01.07.2770
Date-3000	<p>Tokenizes a date field. The date range of the token generated is from 01.01.3001 to 31.12.3500. The supported date formats are the same as those of the <i>Date</i> token profile.</p>	26.02.3359
de.eperi.ca.email	Tokenizes an email field. It only tokenizes the local-part and replaces the domain with "tokenized.de". The tokens are always 19 characters long.	alkofq@tokenized.de
de.eperi.ca.number18	Tokenizes a string field with a numerical value. In addition to numbers, the following characters are allowed at the beginning: "+" and "-". It generates tokens with lengths between 6 and 18 characters.	699704825801805327
de.eperi.ca.plz	Tokenizes a zip code field. If tokenized, the first two digits of the field remain unchanged. Then a "_ZIP_" follows. The tokens are always 18 characters long.	64_ZIP_WREUIRUWEOI 64_ZIP_EPWDHCVCVRPE 64_ZIP_DORPFODGOFT

Token profile name	Description	Example of tokenized field value
PronounceableString	Tokenizes a string field. The tokenized value is represented by a pronounceable string with a length of 13 to 20 characters including the suffix "-test-data".	Kaiw-test-data Lepl-test-data Eiwootl-test-data Oifiereo-test-data Shuffeegg-test-data
String	Tokenizes a string field. It adds a "TOK" at the beginning and generates tokens with lengths between 11 and 20 characters.	TOK0600000091aa17

BOUNDARY CONDITIONS

Please note the following conditions and requirements when installing and operating the eperi Test Data Generation Tool.

Installation Requirements

The installation of the eperi Test Data Generation Tool is possible as:

- > an automated installation package for Ubuntu and RHEL
- > a deployment package for Java-based application server

Unless otherwise agreed, the installation and configuration of the eperi Test Data Generation Tool will be carried out by the customer.

Hardware Requirements

- > 2 GHz CPU
- > 8 GB RAM
- > 10 GB disc space

For an ideal performance we recommend 8 Cores, 64 GB RAM and 256 GB disc space.

Virtual Machine Support

The following VM platforms are supported:

- > VMWare ESX 3.5 and higher
- > VMWare Workstation 6.5 and higher
- > VMWare Player 3.1 and higher
- > VirtualBox 2.2 and higher

Automated installation package for Ubuntu and RHEL

The automated installation package is supported for the following Linux distributions:

- > Ubuntu 16 LTS or 18 LTS
- > RHEL 6 or RHEL 7

The automated installation packages contain the following:

- > eperi Test Data Generation Tool
- > Java (AdoptOpenJDK 11 JRE)
- > Apache Tomcat 9

Deployment Package for other Linux Application Server Versions

The solution can also be deployed manually as a web application archive (WAR file) to existing web application servers running on other Linux operating systems types and versions.

The following are the most common deployments, though other versions can also be supported:

- > AdoptOpenJDK 11 with Hotspot JVM, OpenJDK 11, Oracle Java 11
- > Apache Tomcat 9

Database requirements

Configuration data and other data required by the eperi Test Data Generation Tool for encryption and tokenization are stored in an external database. The external database must be provided by the customer.

For a POC environment, the following databases are recommended:

- > MySQL 5.7
- > MariaDB 10.2 or higher

For a production environment, the following databases are supported:

- > IBM DB2 10 or higher
- > Oracle 11 or 12
- > MySQL 5.7
- > MariaDB 10.2 or higher
- > Microsoft SQL Server 2008 or higher

Tool Requirements

- > Putty or another SSH tool for accessing the Linux shell
- > WinSCP or another SCP tool for copying files across to the server

Data backup

Data backup is the responsibility of the customer.

Hardware Security Module (HSM) support

Optionally the eperi Test Data Generation Tool can be connected to an HSM. Currently the following HSM are supported:

- > Luna HSM running on firmware versions 5.4 and 6.10
- > Utimaco HSM

Required knowledge

For the installation and operation of the eperi Test Data Generation Tool, the customer requires administrative knowledge of the following software products and technologies:

- > Linux / Windows operating systems (e.g. Ubuntu, Red Hat Enterprise Linux, Windows Server)
- > Web application server (e.g. Apache Tomcat, IBM WebSphere)
- > Databases (e.g. IBM DB2, Oracle, MySQL, MariaDB)
- > Virtualization Technologies (e.g. VMWare, VirtualBox)
- > Domain Name System
- > SSL / TLS certificates

Since the user documentation is only available in English, command of English is required.



SCOPE OF DELIVERY

The delivery of the eperi Test Data Generation Tool includes the following:

- > Automated installation packages for the supported Linux distributions
- > WAR file for manual deployment on other application servers and Linux versions
- > Limited time license for the eperi Test Data Generation Tool
- > Documentation:
 - > Administrator Manual
 - > Release Notes
- > Access to the eperi Customer Portal

Both the documentation and the software are available for download online at the eperi Customer Portal. The user documentation and the user interface are in English.

SUPPORT AND MAINTENANCE

A license for the eperi Test Data Generation Tool includes the following support and maintenance:

Support

Support by eperi via e-mail or support portal.

Maintenance

Updates and new releases are provided in the eperi Customer Portal.

CONTACT

Contact us for questions about our products and solutions or to request a demo. An eperi employee will get in touch with you as soon as possible.

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