

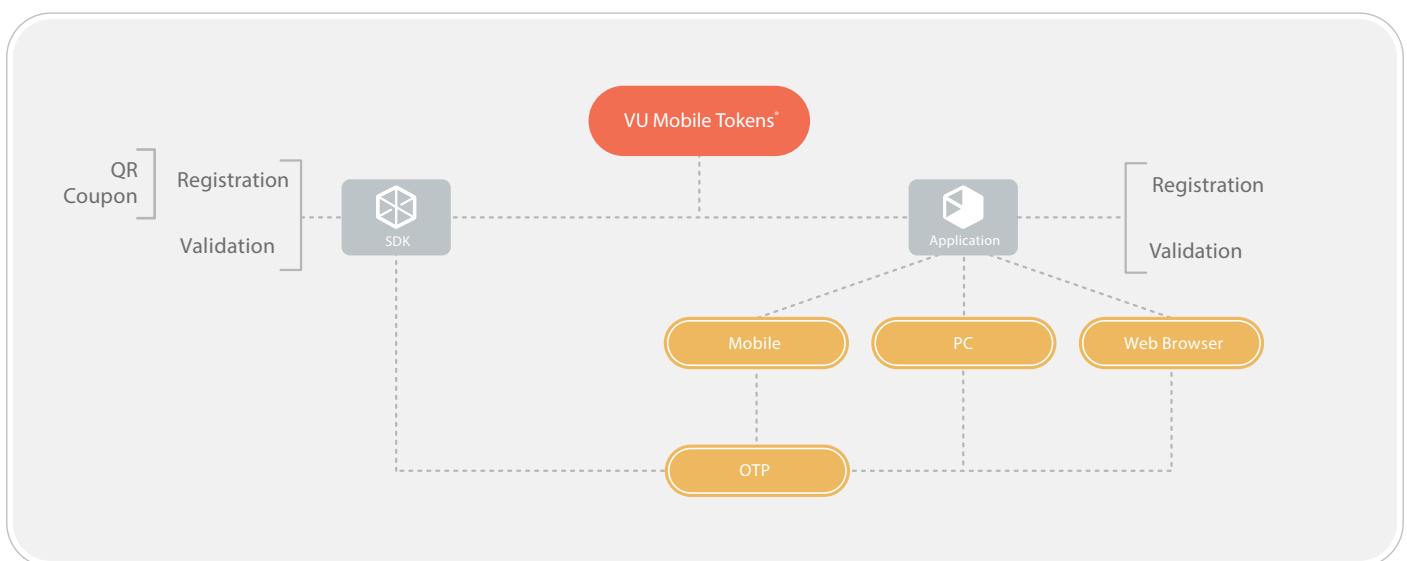


# VU Mobile Tokens®

## About VU Mobile Tokens®

It endorses the user's identity using two authentication factors with simple application and distribution, which guarantees the robust security of the user, generating a One Time Password (OTP).

It does not rely on telephone or Internet networks, which prevents delays and eliminates the need of remembering many, long, complicated passwords. It is intuitive, and the device can be unlocked with the PIN or the user's Fingerprint. If the device is lost or stolen, the token can be easily generated again from a different device. It works on mobile devices, PCs and Web, without agents.



## Software requirements and compatibility

### Operating System

Debian 7 or higher  
Ubuntu 14.04 or higher  
Red Hat RHEL 6 or higher  
Suse 10 or higher  
Solaris 10 x86  
Solaris 10 Sparc  
Windows 2008 R2 or higher

### Databases

MySQL 5.6 or higher  
PostgreSQL 9 or higher  
Oracle 10 or higher  
MS SQL 2008 or higher  
MS SQL 5.6 or higher  
MariaDB 5.5 or higher  
DB2

### Virtualization

VMWare  
Citrix  
Microsoft Hyper-V  
RHEV  
Virtual Box  
Docker

### High Availability

HA Proxy  
KEEPALIVE  
REPMGR  
DRBD

### Browsers

Firefox  
Internet Explorer 10 or higher  
Google Chrome  
Apple Safari

### Technologies

Java 1.7 or higher

### Security

RSA / SHA1 / 3DES / AES 256  
Security Certificates  
EAP-PEAP-MSCHAP v2  
TimeStamp  
HOTP/OCRA/TOTP/HMAC

### Web Server

Apache 2  
Nginx  
IIS  
Weblogic  
Jboss  
Tomcat  
WebSphere

## Integrations

WS-I Basic Profile 2.0  
SOAP 1.1 or higher  
WSDL 1.1 / WS-Security WSI  
XML Schema 1.0  
TSL 2.0

## Access Management

Radius  
Cisco ACS 4.2 or higher  
FreeRadius  
Active Directory  
Samba  
Cisco ISE

## Register & Report Management

Crystal Reports  
Syslog  
Nagios

## Mobile OS

iOS, Android, Windows Phone, HTML5, USSD  
SMS, Push Notification

## VU Mobile Tokens<sup>®</sup> SDK

VU provides the possibility of adding VU Mobile Tokens<sup>®</sup> to its existent applications through the VU Mobile Tokens<sup>®</sup> SDK, which disposes of every method clients will need to incorporate the functionality.

To improve the SDK deployment, a guide containing examples of the use of every function is delivered, to make the execution on a real scenario easier.

The SDK is available for the following supported languages: Java, JavaMe, Javascript, Objective-C.

VU provides a class with all the needed functions and corresponding documentation to deploy an authentication via OTP.

The public functions are detailed below:

- Activation of unique OTP algorithm per user
- Delivery of the corresponding OTP code
- Return of the current OTP's lifetime
- Synchronization of the time for the correct OTP to work
- Encrypt and decrypt of the secret shared between VU Mobile Tokens<sup>®</sup> and the server
- Delivery of the secret, ready to be stored

## Integration API

The integration infrastructure is designed to merge with any other platform, regardless of its language, through Web servers (POST/ GET) published on VU App & Cloud Server<sup>®</sup>.

The application is composed of different methods, identified with functions destined to the administrative management and for the use of final users. The communication between the presentation layers and the VU App & Cloud Server<sup>®</sup> is made through an SSL connection.

## The available methods can:

- Enable, validate, block and unblock users on the VU Mobile Tokens® system
- Unassign the VU Mobile Tokens® assigned to the user on the system
- Report the user's status on the VU Mobile Tokens® system
- Validate the final VU Mobile Tokens® user
- Provide the OTP assigned to the user on the VU Mobile Tokens® system
- Validate OTPs
- Deactivate transactions
- Enable transactions to validate on the VU Mobile Tokens® system

## Hardware Sizing\*

Number of Users	Primary Instance		Secondary Instance		Transactions per second	Storage required	LOG Storage
	Processor	Memory	Processor	Memory			
1 to 10,000	4 processing threads	2 GB RAM	4 processing threads	2 GB RAM	40	60 GB - HD	60 GB - HD
10,000 to 50,000	8 processing threads	4 GB RAM	8 processing threads	4 GB RAM	80	120 GB - HD	120 GB - HD
50,000 to 100,000	16 processing threads	8 GB RAM	16 processing threads	8 GB RAM	160	240 GB - HD	240 GB - HD
100,000 to 250,000	32 processing threads	16 GB RAM	32 processing threads	16 GB RAM	320	480 GB - HD	480 GB - HD
250,000 to 1,000,000	64 processing threads	32 GB RAM	64 processing threads	32 GB RAM	640	1 TB - HD	1 TB - HD

\* The present sizing estimation assumes a high availability setup.

