# V-OS SMART TOKEN

## THE FUTURE OF AUTHENTICATION

## BENEFITS

- REDUCE COSTS WITH OVER-THE-AIR SETUP AND UPDATES
- EMBED STRONG AUTHENTICATION IN UX
- SMART CARD SECURITY WITHOUT HARDWARE
- GLOBALLY CERTIFIED

## MAKING 2FA SMART

With the increasing logins and payments happening through our mobile phones, phones are fast becoming part of our identity. Using mobile authentication has multiple benefits. The mobile phone is always with the user, minimizing the risk of forgetting the token and being unable to login. Also, software tokens within the mobile phone can be upgraded and patched without the need to replace the entire device like a hardware token. It is also scalable in terms of further strengthening mobile authentication techniques.

Leveraging all these advantages and built on top of the patented V-OS Virtual Secure Element technology, V-OS Smart Token brings the best of convenience and security to your customers. By providing a highly secure execution environment to the keys used for digital signing and the secrets used for generating one-time passwords (OTPs), V-OS Smart Token ensures that the transactions carried out on the protected app are not tampered or manipulated in any way even if the underlying operating system is compromised.

### ABOUT V-KEY

V-Key is an internationally-acclaimed software-based digital security company, headquartered in Singapore. V-Key's pioneering technology powers ultra-high security solutions on premise and Cloud-based, for digital identity management, user authentication and authorization, IoT, as well as electronic payments for major banks, payment gateways, and government agencies. Today, V-Key secures millions of users around the world, enabling digital leaders to create powerful customer experiences that combine high security and delightful convenience.

## V-OS SMART TOKEN

In the authentication world, high security often means to sacrifice on user experience. However, V-Key's V-OS Smart Token bucked the trend by combining user interface (UI) and user experience (UX) in an integrated package by providing an easy, seamless yet secured login.
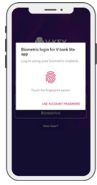


User Experience     Security

Connectivity wise, once V-Key's V-OS Smart Token is activated, it can work even without internet connectivity.

# PRODUCT FEATURES

CONVERTS APP INTO OUT-OF-BAND SEAMLESS OTP AUTHENTICATOR

PASSWORDLESS AUTHENTICATION USING QR CODE, PUSH NOTIFICATION, FACE ID OR FINGERPRINT

PROVIDES APIS FOR OTP, PKI & FIDO2 STANDARDS BASED AUTHENTICATION PROTOCOLS

AVAILABLE AS AN EASILY INTEGRABLE SDK OR AS A STANDALONE WHITE LABELED APP

MULTI-LAYERED ADVANCE MOBILE SECURITY PROTECTIONS

WORKS ON CLOUD OR ON-PREMISE

SUPPORTS SYMMETRIC & ASYMMETRIC CRYPTOGRAPHY STANDARDS

INTEGRABLE WITH 3RD PARTY AUTHENTICATION SERVERS
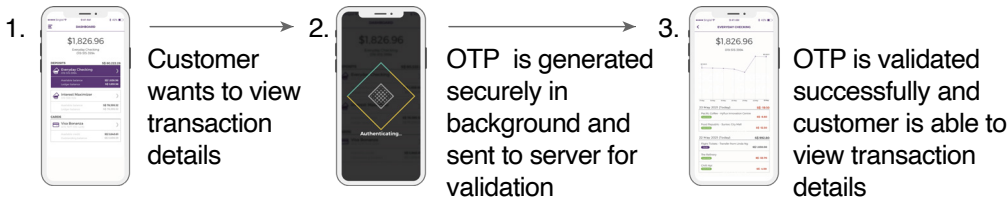
PROVISION MULTIPLE TOKENS WITHIN A SINGLE APP

MINIMAL MEMORY FOOTPRINT AND RESOURCE REQUIREMENT ON DEVICE
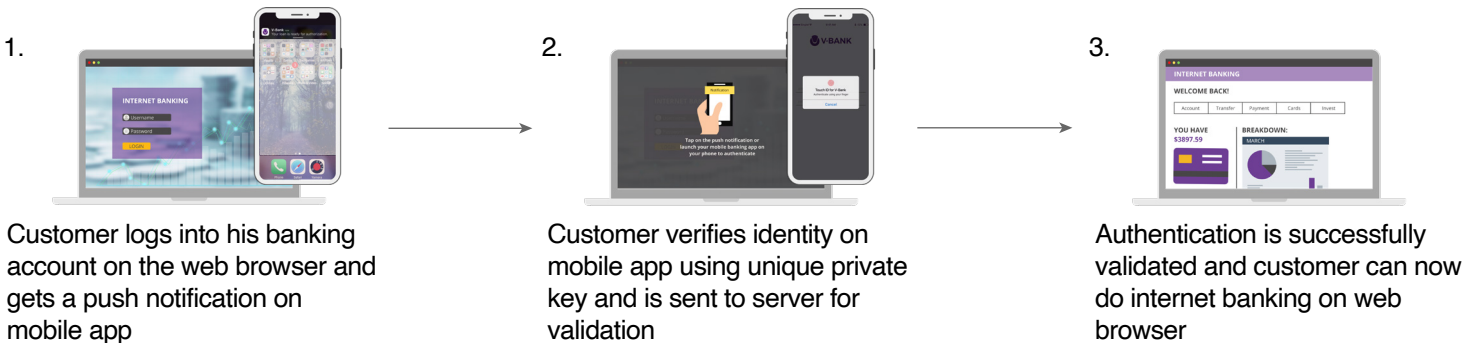
## WHAT IS V-OS

V-OS is V-Key's patented solution and the world's first virtual secure element to be FIPS 140-2 validated (US NIST), Common Criteria EAL3+ certified and accredited by the Infocomm Media Development Authority of Singapore (IMDA). V-OS uses advanced cryptographic and cybersecurity protections to comply with standards previously reserved only for expensive hardware solutions. Integrated seamlessly with biometrics, PKI-based technology and out-of-band authentication, V-OS makes delightful user experiences possible while being uncompromisingly secure. V-OS has been the subject of multiple rigorous penetration tests. It has also been stress-tested by e-commerce players, government agencies, regulatory bodies and financial services companies.

# V-OS AUTHENTICATION

## Seamless In-App Authentication

1. Customer wants to view transaction details

2. OTP is generated securely in background and sent to server for validation

3. OTP is validated successfully and customer is able to view transaction details

**PLATFORMS SUPPORTED:**

**Client OS:**
Android 4.4 to 11 & iOS 7 to 14

**Server OS:**
Red Hat Enterprise Linux (RHEL), CentOS

**Server:**
JBoss EAP, WebLogic, Embedded Container (Tomcat)

**Database:**
MySQL, MariaDB, Oracle, Microsoft SQL Server

## Push-Based Authentication

1. Customer logs into his banking account on the web browser and gets a push notification on mobile app

2. Customer verifies identity on mobile app using unique private key and is sent to server for validation

3. Authentication is successfully validated and customer can now do internet banking on web browser

SPEAK TO A V-KEY SALES REPRESENTATIVE TODAY. CONTACT INFO@V-KEY.COM

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GLOBALPLATFORM®
THE STANDARD FOR MANAGING APPLICATIONS ON SECURE CHIP TECHNOLOGY

FIPS VALIDATED 140-2

Common Criteria

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## V-KEY
STRONGER WITH V-OS

V-OS VIRTUAL SECURE ELEMENT | V-OS APP PROTECTION | V-OS SMART TOKEN
V-OS FACE BIOMETRICS AND EKYC | V-OS MESSAGING | V-OS TRUSTED IDENTITY SERVICES

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