TPM as a Virtual Smart Card

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Challenges

Passwords

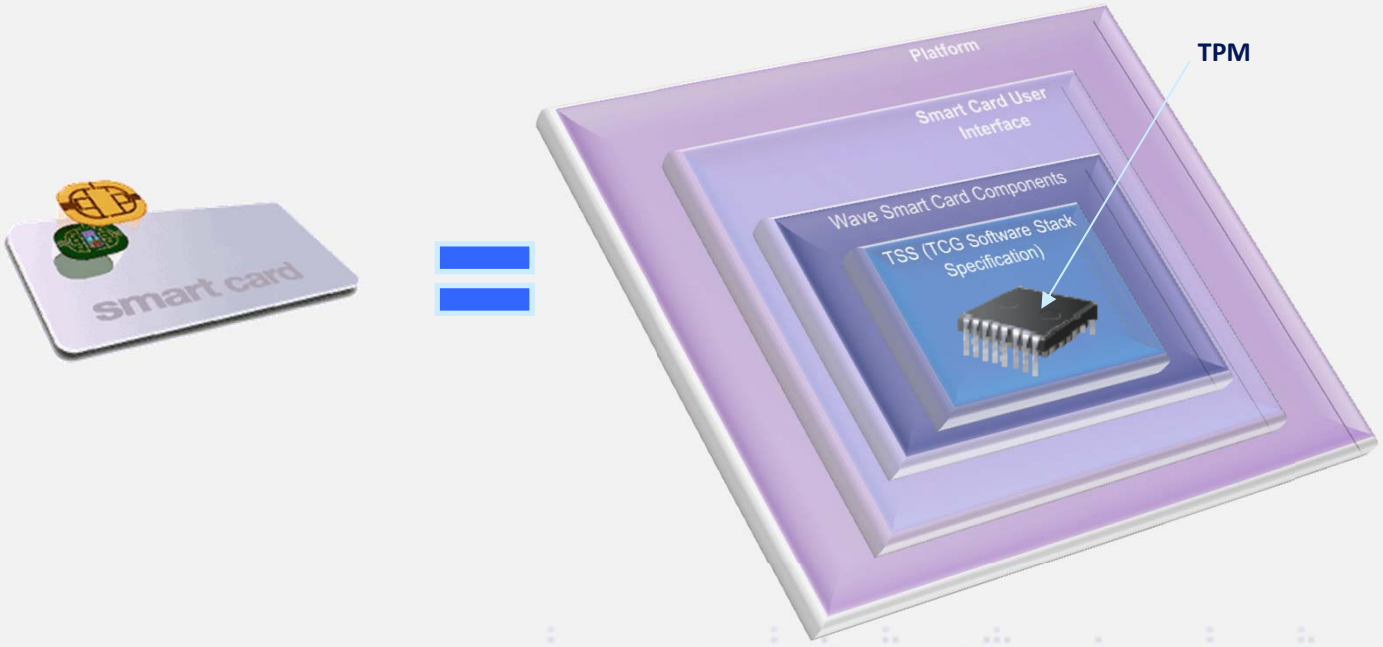
- **Passwords are easy to break**
- **Password complexity adds to user and management complexity**
- **Password management is expensive**
- **$20- $100 /user (Source: SC Magazine product review)**
- **High-risk for breach**

Multi-factor Authentication

- **Example: Two-factor authentication**
- **Numerous multi-factor authentication products**
- **Need to maintain possession of multiple tokens based on use**
- **Existing multi-factor authentication products can be expensive - up to $150/user (Source: Gartner Research 2013)**
- **Not easy to use**

What is a Virtual Smart Card?

A virtual smart card uses software to turn the TPM into a smart card. The smart card is integrated and tied to the platform and can be used much in the same way as a conventional smart card.



Wave Solution: Virtual Smart Card

- **Secure multi-factor authentication**
- **Enables only known users and known devices to access corporate resources, devices and applications**
- **Utilizes hardware root of trust to offer easy-to-use, strong authentication**
- **Software solution that uses secure hardware that is always present inside your PC**

Wave Virtual Smart Card: Benefits

- Ultra-secure
- Hardware-based security
- Significantly lower Total Cost of Ownership (TCO) than PKI token
- Radically reduce risk of data breach with strong authentication and access control with known devices and known users
- Integrate seamlessly with common enterprise applications
- Available on Windows 7, 8, and 8.1

Virtual Smart Card: Use Case Examples

- User login to Windows tablet/laptop
- User authentication with VPN
- Port-based access control (802.1X)
- Strong encryption – email, BitLocker keys
- Integrity – tamper resistance

Enterprise Lifecycle Management

- Appears and operates exactly like a physical smart card
- Flexible installation options
- Modern Access Control
- Consistent user experience for Win 7/8/8.1
- Remote or user self-provisioning
- Remote revocation/delete
- Automated PIN recovery/unblock
- Status discovery & reporting

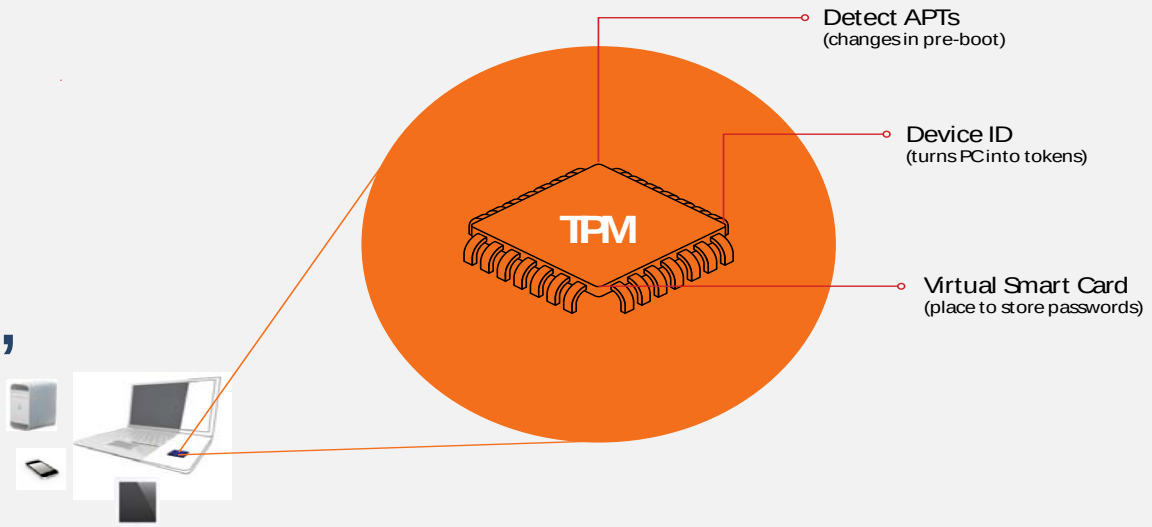
Virtual Smart Card : Summary

- Superior security – Authentication, Encryption
- Available for Windows 7, Windows 8 and 8.1
- Lower Total Cost of Ownership – up to 60% less
- Superior user experience
- Seamless integration with existing applications and services

Backup

Trusted Platform Module (TPM)

The TPM is a standards-based security module that's built into most laptops, desktops and tablets.



A secure micro-controller with cryptographic features that provides a root of trust enabling the secure generation of keys and the ability to limit their use for encryption/decryption & signatures, and as a secure container for key storage.