

Smart Card  
Alliance

# Bluetooth Vs NFC/HCE

Mark Robinton  
HID Global

# What is NFC?

## Card Emulation

Commerce  
Loyalty  
Access control  
Ticketing



## Peer To Peer

- Data sharing
- Secure pairing  
e.g. Bluetooth, WiFi
- Low power access control



## Read-Write

- NFC Tags
  - Smart Posters
  - Brand Protection
  - Advertising



# Definition of Mobile

Creating a Safe place on the mobile device



Smartphone



Phablet



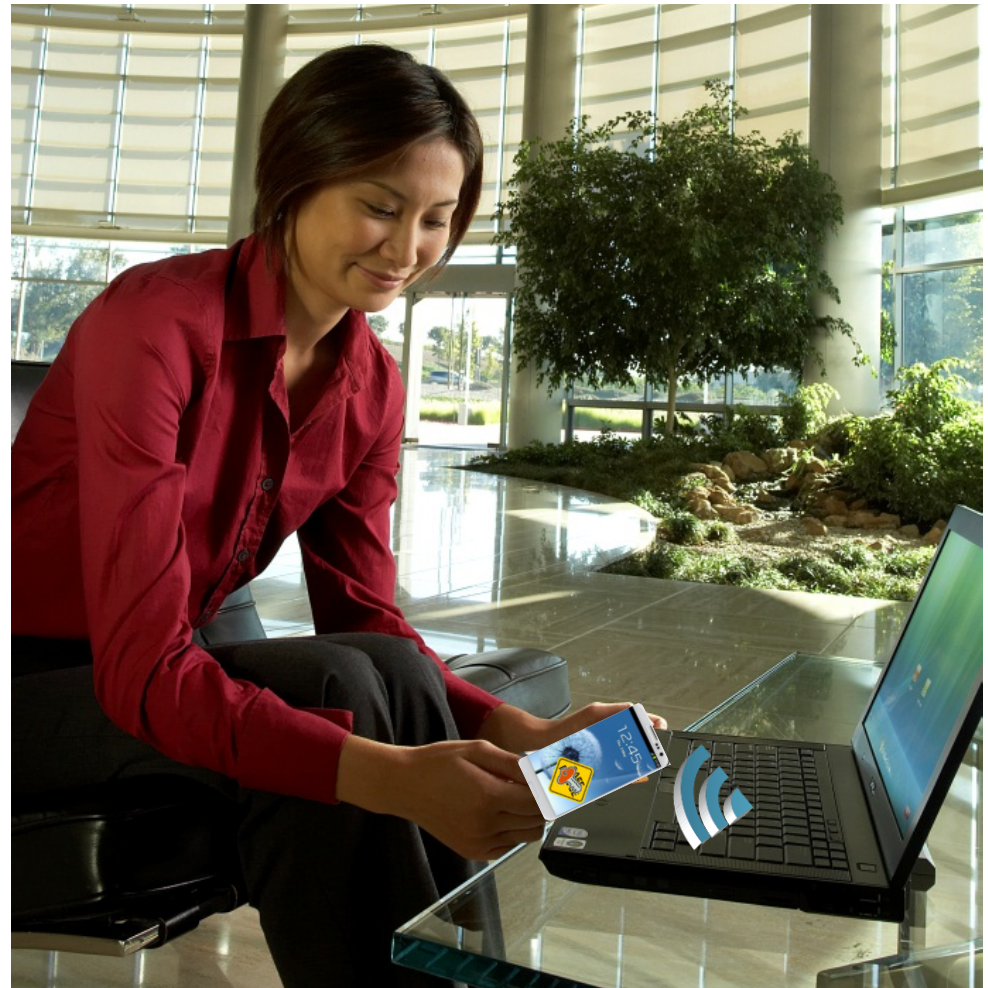
Tablet

# Safe place for what?

## Physical Access Credentials

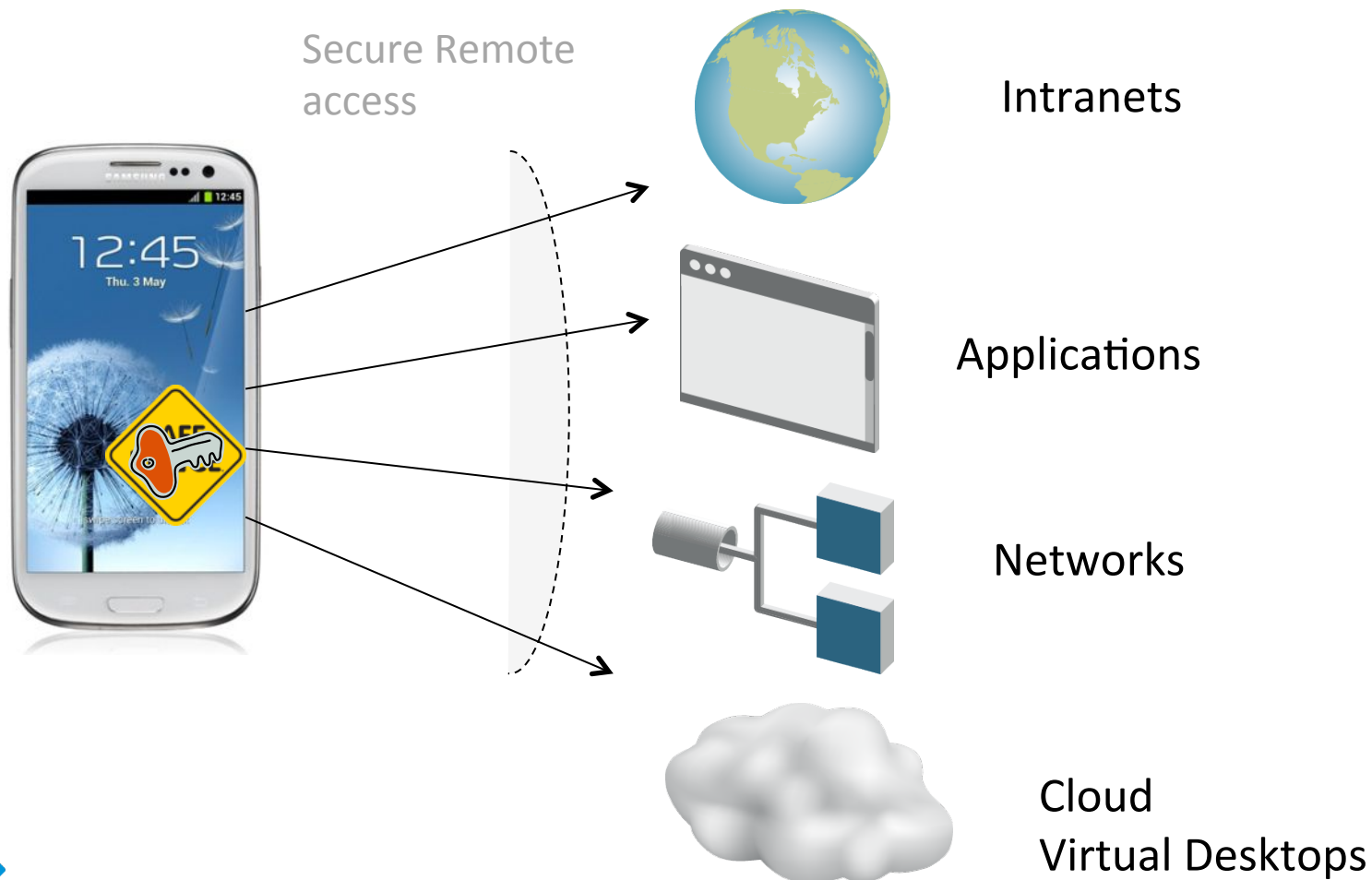


# Safe place for what? Logical Access Credentials

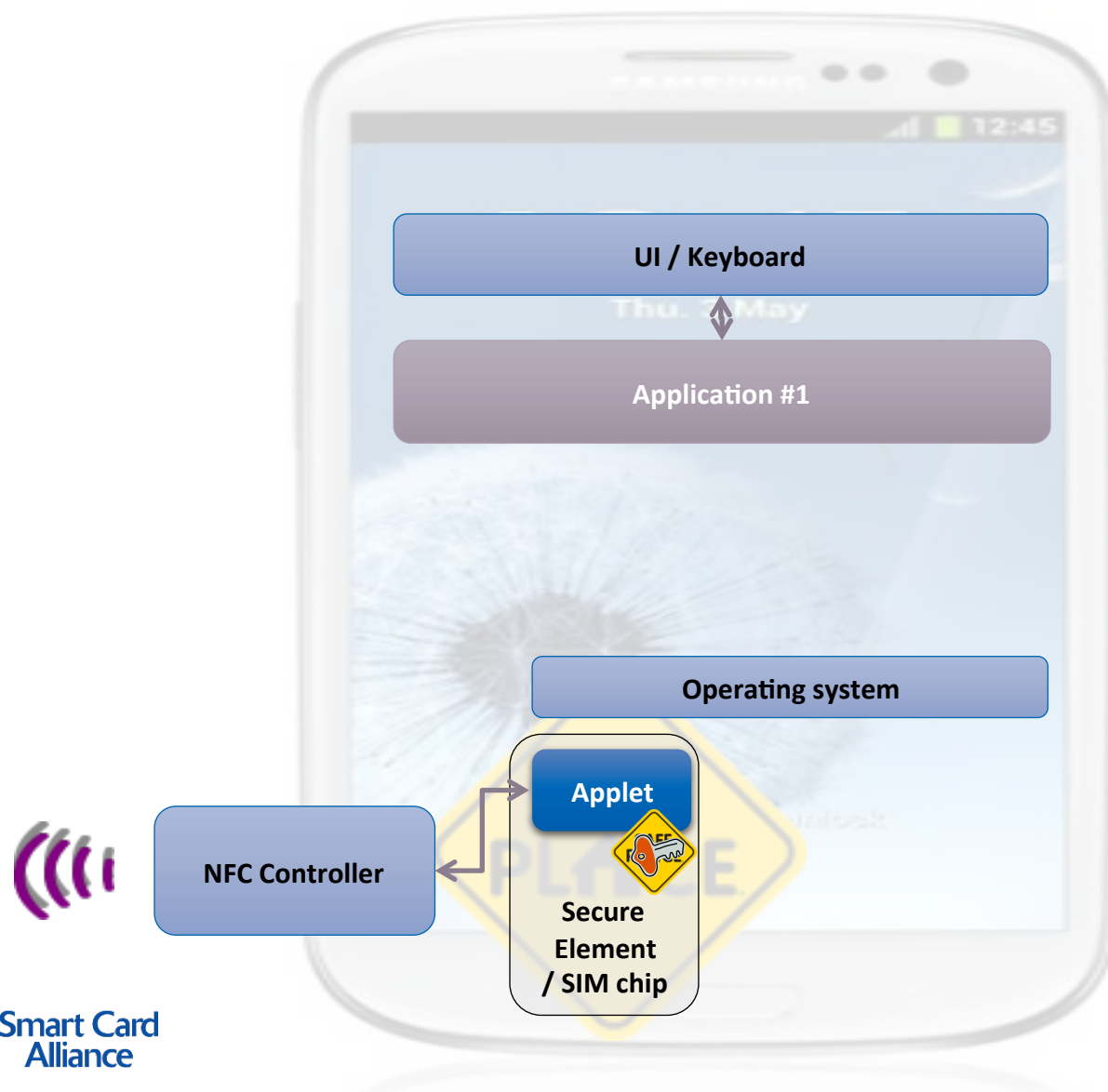


# Safe place for what?

Secure Remote Access from the phone



# Hardware based vault



# Secure Elements

## ■ On Phone:

- Embedded SE

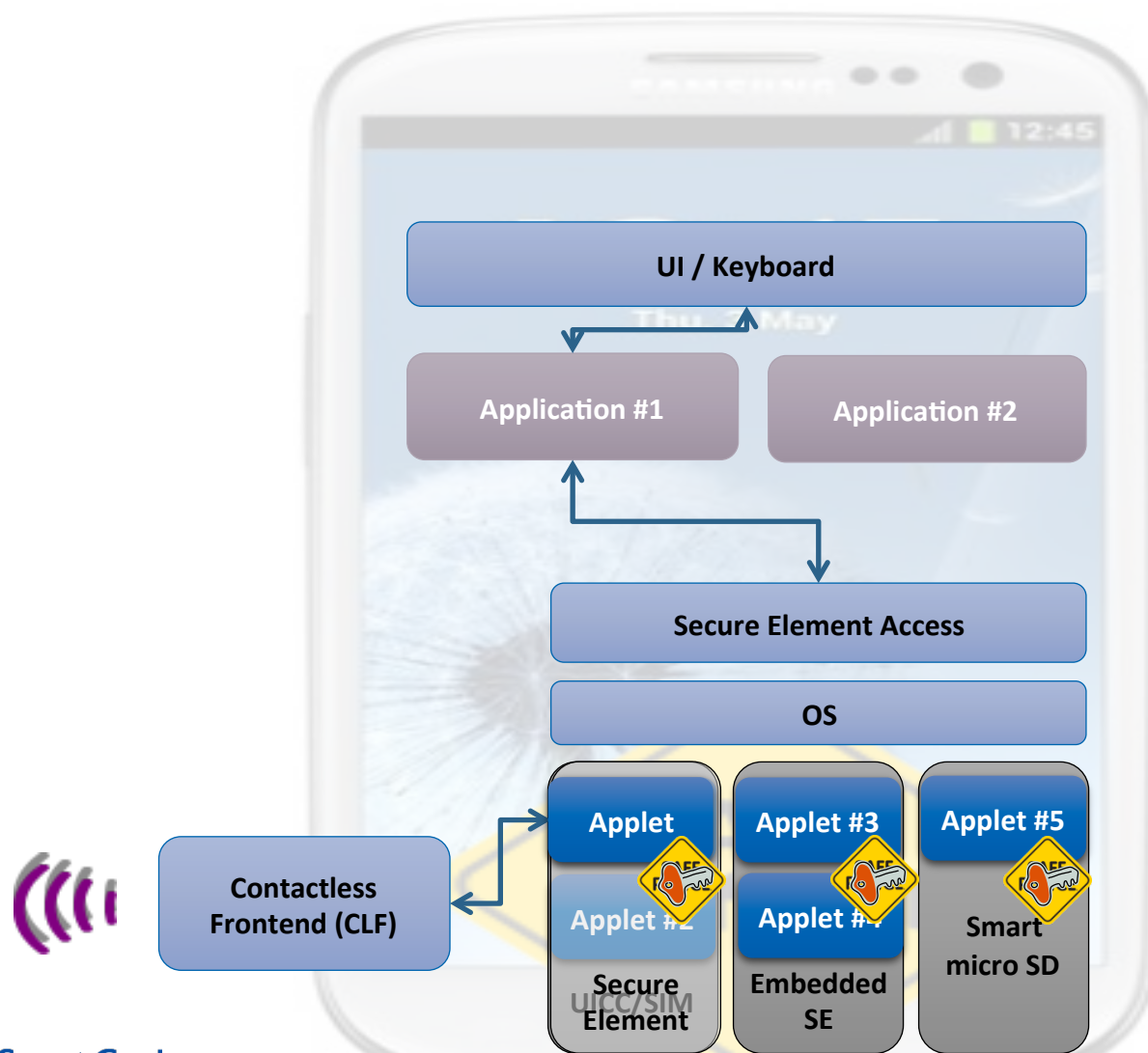


## ■ Removable

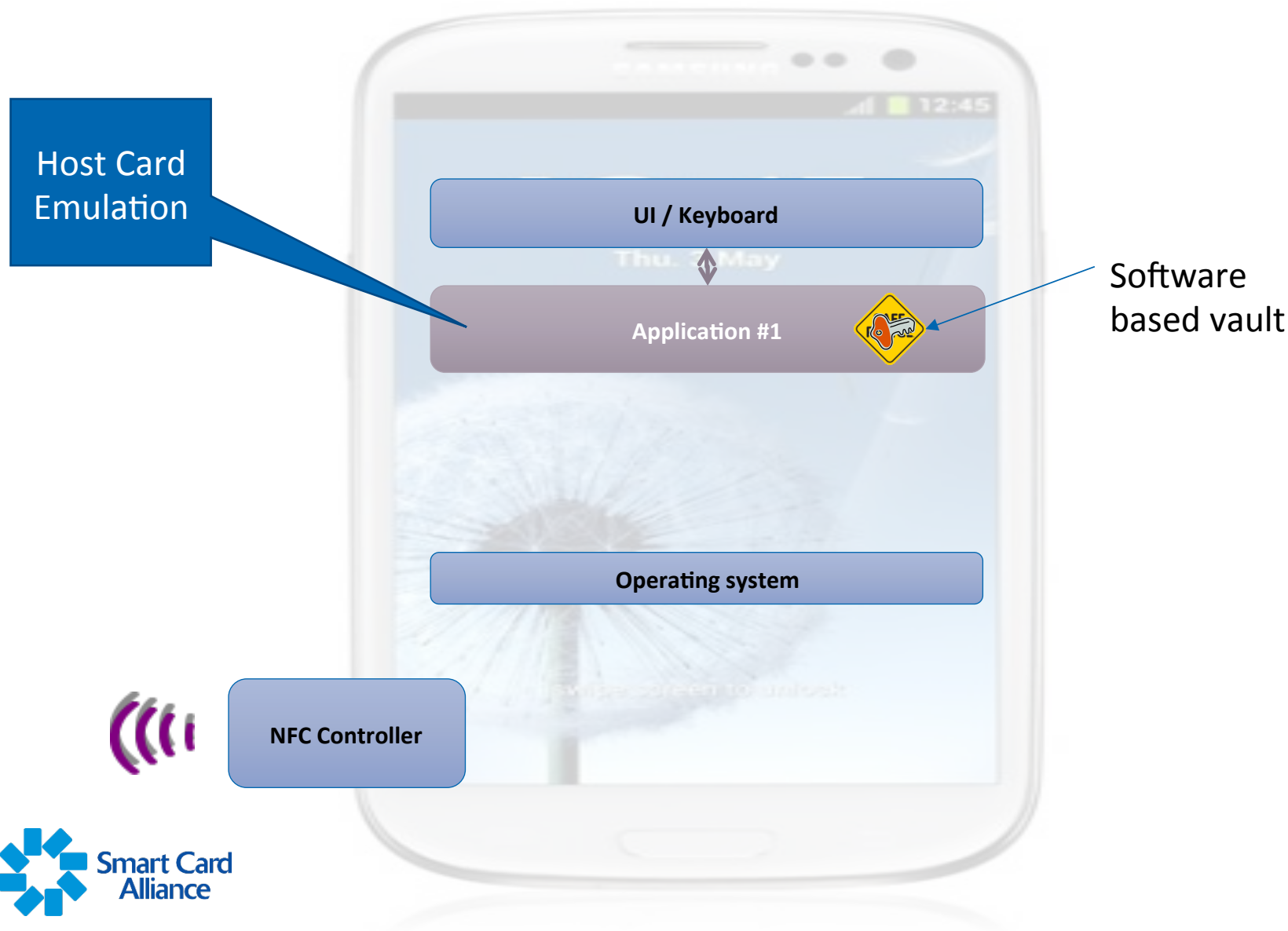
- UICC / SIM
- Smart micro SD



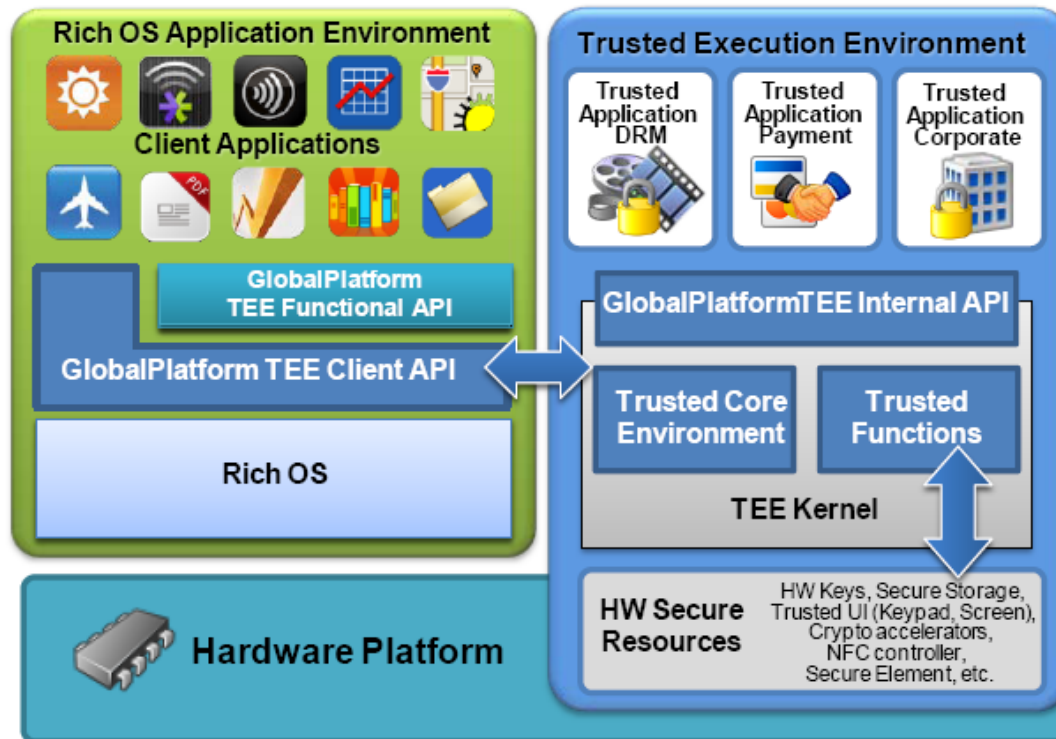
# Multiple Hardware based vaults



# Software based vault

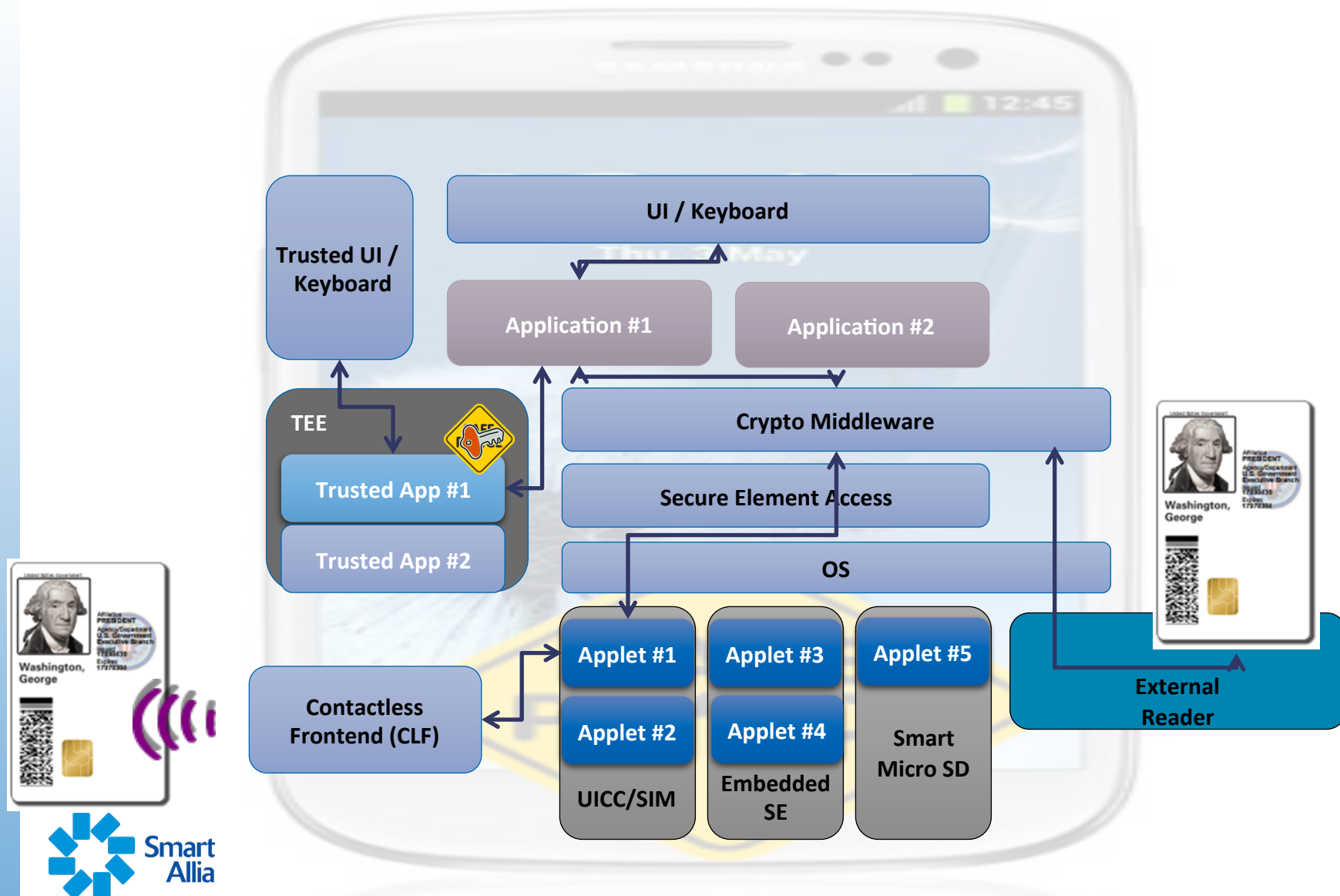


# TEE Trusted Execution Environment

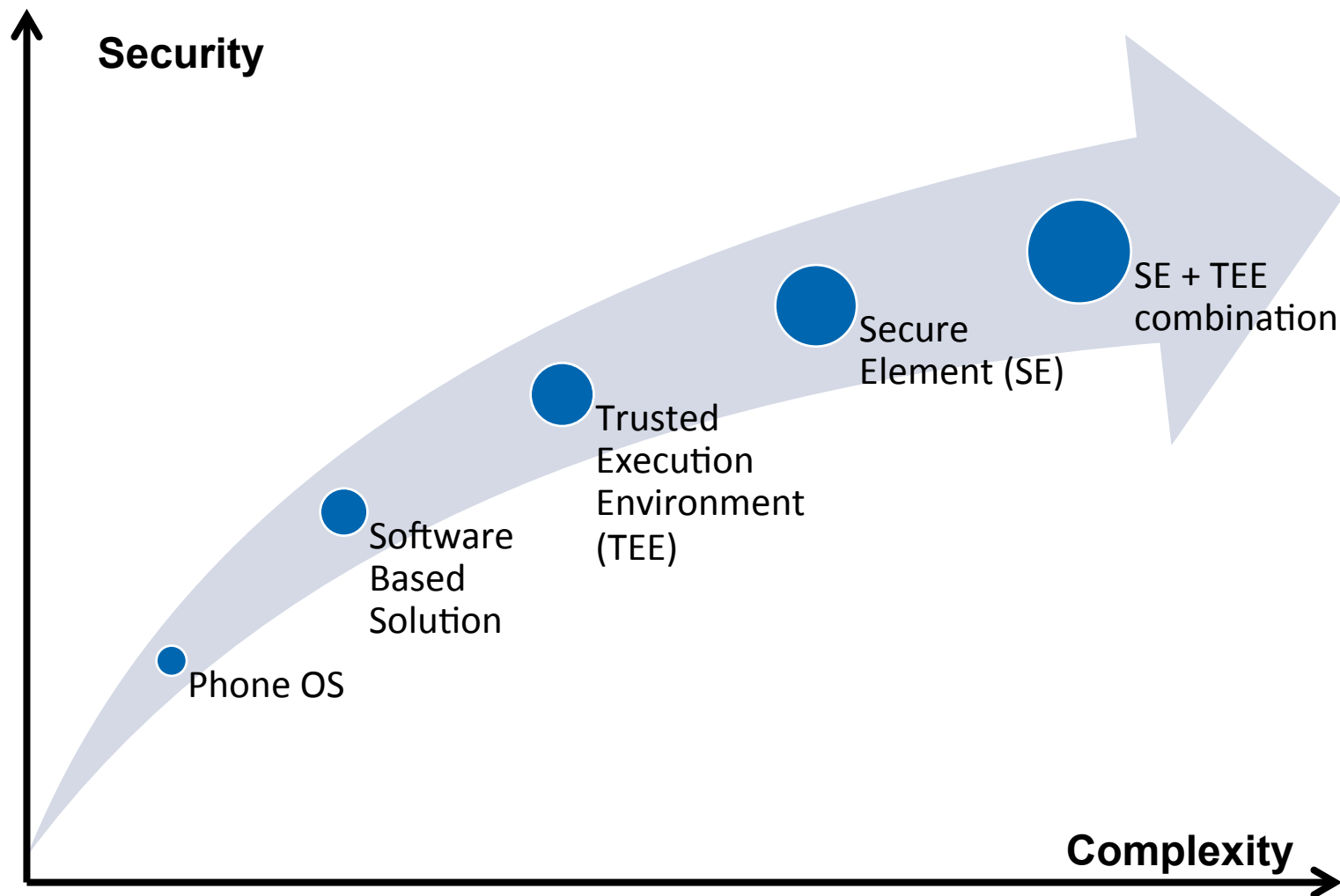


- Trusted input/output
- Processor speed video decoding and bio verification
- Resource allocation greater (Mb rather th Kb)

# Trusted Execution Environment



# Security Continuum



# What's different about Bluetooth Smart



Different to Bluetooth “classic”

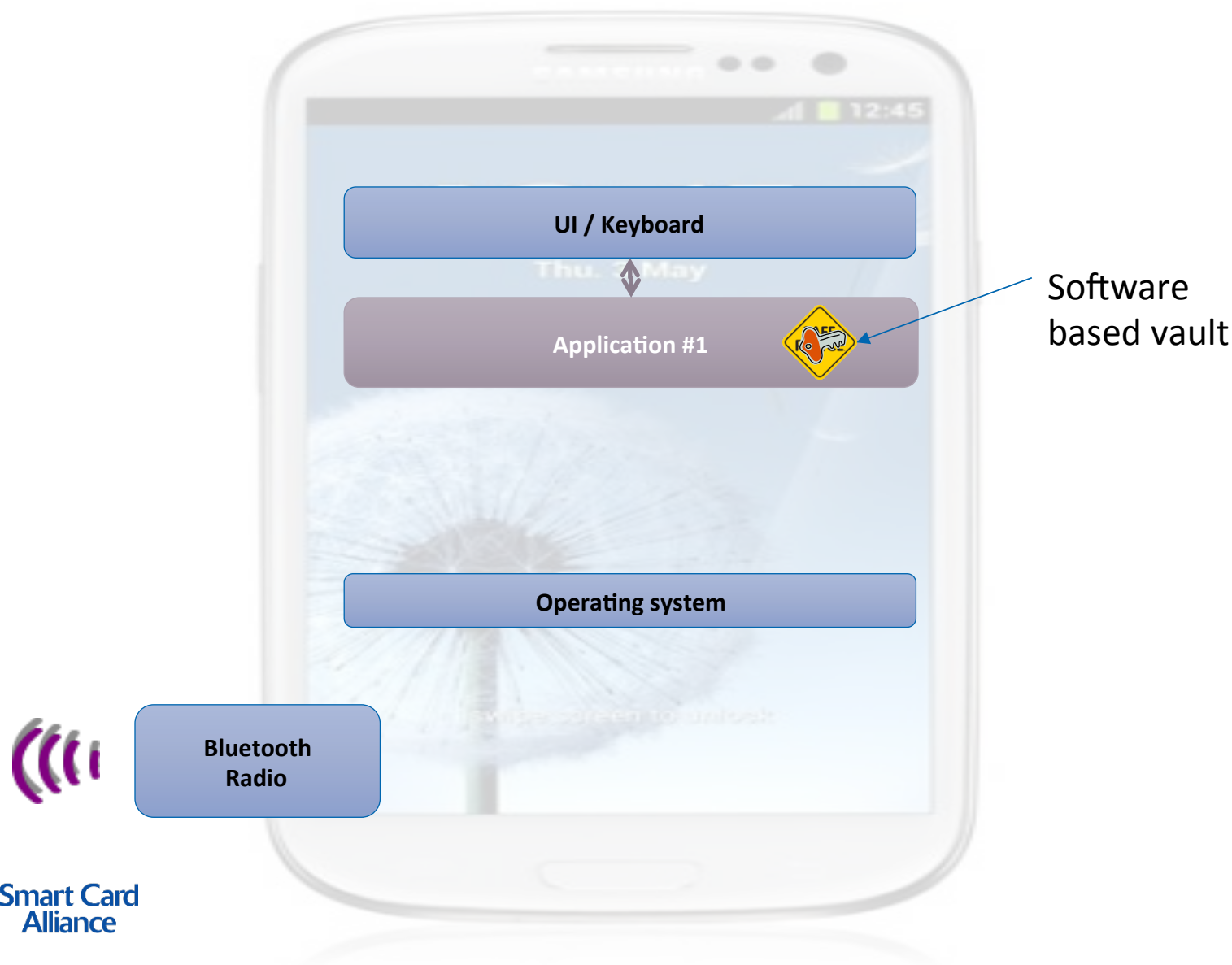
Doesn't require pairing codes

Low energy consumption

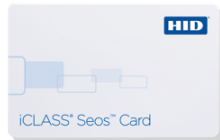
Long range (up to 250 ft)

Strong device compatibility (iOS & Android)

# Bluetooth with a Software Vault



# Transmission and Form Factor Independence



# Conclusions

Many security options available for NFC Card Emulation

- Hardware
- Software (HCE)
- TEE

Bluetooth can be used for some of the same use cases, at a greater distance

Ideal solutions are not tied to a specific protocol but are flexible on the form factor and transmission that is used



Smart Card  
Alliance

191 Clarksville Road  
Princeton Junction, New Jersey 08550  
[WWW.SMARTCARDALLIANCE.ORG](http://WWW.SMARTCARDALLIANCE.ORG)