



# Mobile/NFC Security Fundamentals

## Anatomy of a Mobile Device: Security Architecture and Secure Provisioning

- Smart Card Alliance and GlobalPlatform Webinar
- March 5, 2013

**GLOBALPLATFORM™**



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# Introductions

- Randy Vanderhoof
- Executive Director
- Smart Card Alliance



# About the Smart Card Alliance

**The Smart Card Alliance is a not-for-profit, multi-industry association working to stimulate the understanding, adoption, use and widespread application of smart card technology. Through specific projects such as education programs, market research, advocacy, industry relations and open forums, the Alliance keeps its members connected to industry leaders and innovative thought. The Alliance is the single industry voice for smart cards, leading industry discussion on the impact and value of smart cards in the U.S. and Latin America. For more information please visit <http://www.smartcardalliance.org>.**

# Mobile & NFC Council



- *Raise awareness and accelerate the adoption of all applications using NFC*
  - Access control, identity, loyalty, marketing, payments, peer-to-peer, promotion/coupons/offers, transit, ...
- *Accelerate the practical application of NFC*, providing a bridge between technology development/specifications and the applications that can deliver business benefits to industry stakeholders.



# Today's Webinar Topics & Speakers



- **Introduction:** Randy Vanderhoof, Executive Director, Smart Card Alliance



- **Introduction to GlobalPlatform:** Kevin Gillick, Executive Director, GlobalPlatform



- **Anatomy of a Mobile Device:** Philip Hoyer, Director, Strategic Solutions, HID Global



- **Security Interfaces and Secure Provisioning:** Gil Bernabeu, Technical Director, GlobalPlatform
- **Q&A:** Randy Vanderhoof, Smart Card Alliance



# Contactless and NFC Payments Continues to Spread





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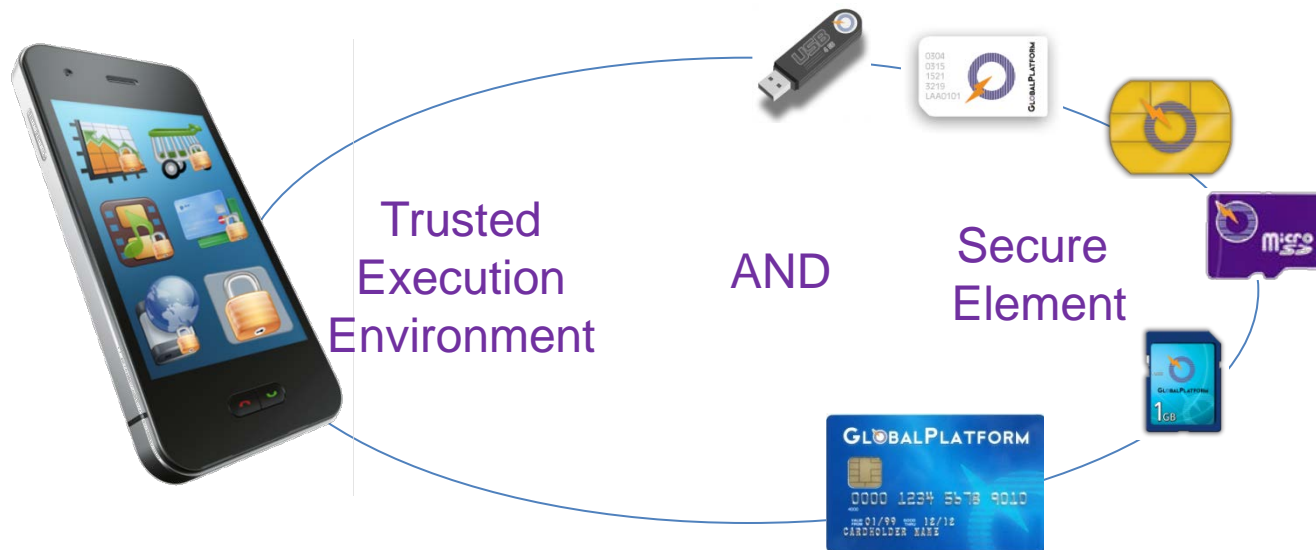
# NFC Security Webinar Series #1 – Anatomy of a Mobile Device

- Kevin Gillick
- Executive Director
- GlobalPlatform

**GLOBALPLATFORM™**

# Introduction to GLOBALPLATFORM™

GlobalPlatform is the standard for managing applications on secure chip technology



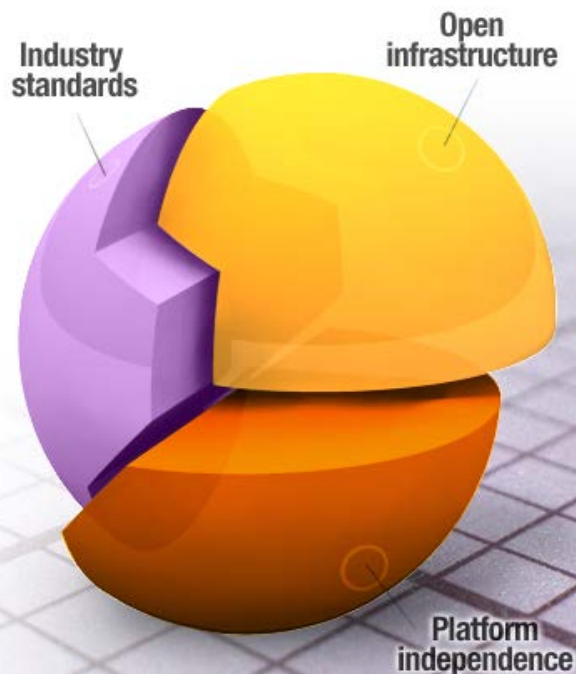
Across several market sectors and in converging sectors





# GLOBALPLATFORM™ At-a-Glance

## What is the output of GlobalPlatform?



Specifications – technical industry guidelines

Configurations – applying the guidelines to different market sectors

Security Certifications – streamlining security requirements & testing

Industry Compliance Program – confirming a product's functionality aligns to GlobalPlatform technology

Educating the Industry – white papers & technical documents

Workshops – specification training & educational

# GLOBALPLATFORM™

## Mobile Task Force (MTF)

**Established in 2007 to actively contribute to the development of mobile telecommunications standards worldwide.**

### **Overview:**

- The task force provides input to the technical committees, concerning the specific and emerging requirements of the mobile sector, in order that the GlobalPlatform Card, Device and Systems Specifications can be expanded and updated to suit market needs.

### **The primary objectives is to:**

- collect business requirements
- facilitate new market opportunities between the mobile sector and other industries
- highlight that differentiation of products and services can be achieved through multiple applications
- demonstrate that various business models can be applied within one implementation
- communicate that a neutral and scalable infrastructure can protect current investments relative to future technology evolutions

# GLOBAL PLATFORM™ Membership





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# Anatomy of a Mobile Device

- Philip Hoyer
- Director, Strategic Solutions
- HID Global

# Definition of Mobile



**Smartphone**



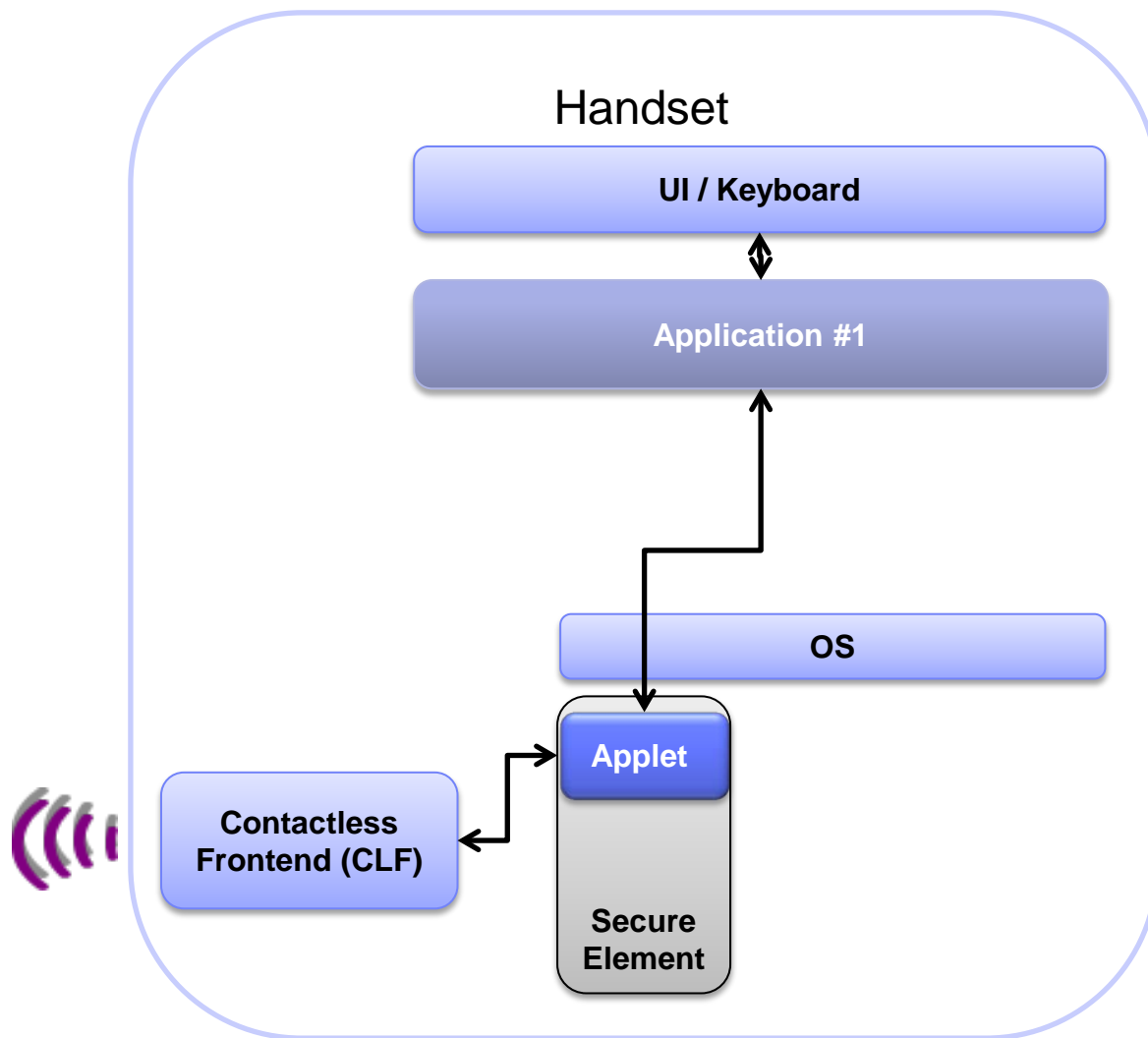
**Phablet**



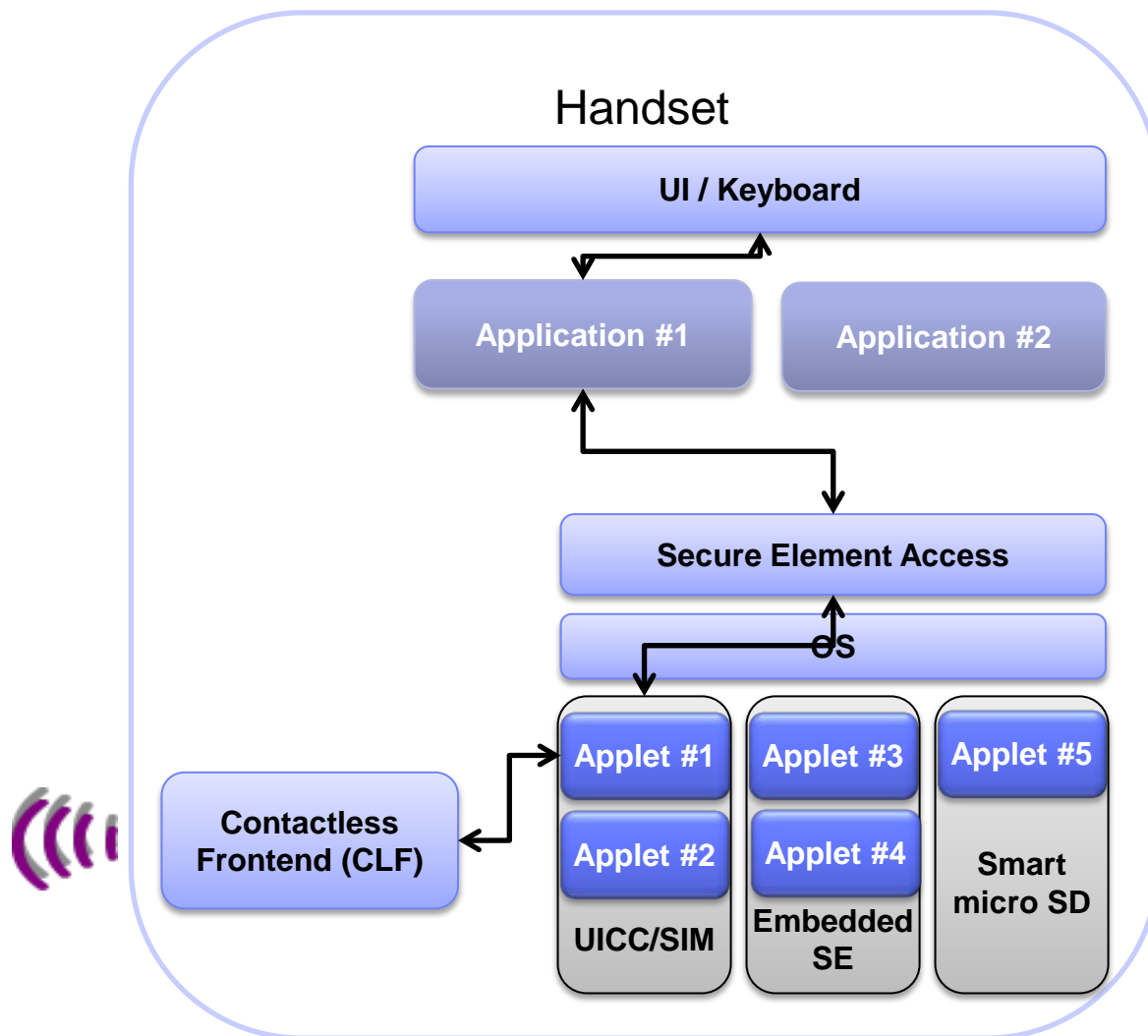
**Tablet**



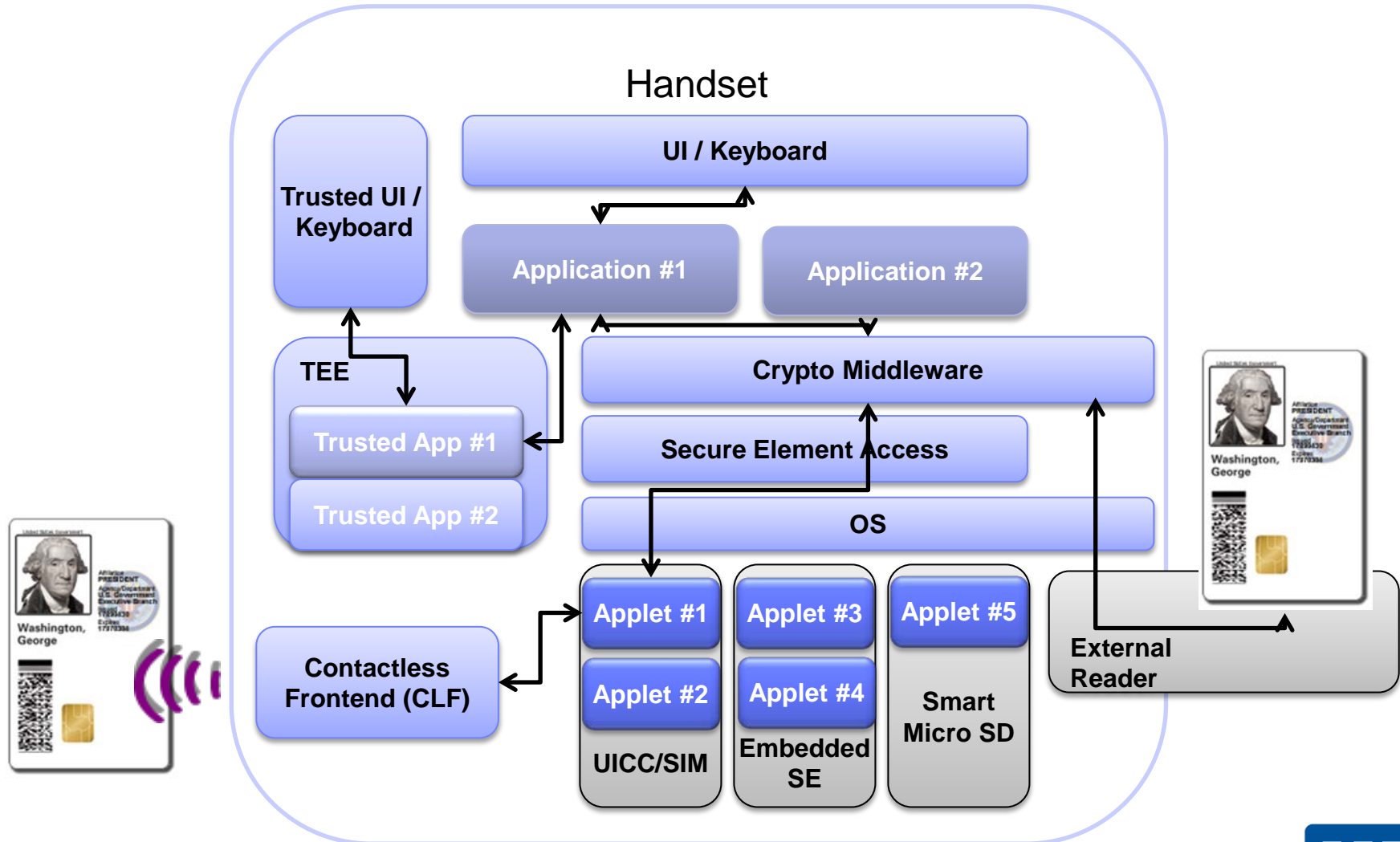
# Anatomy



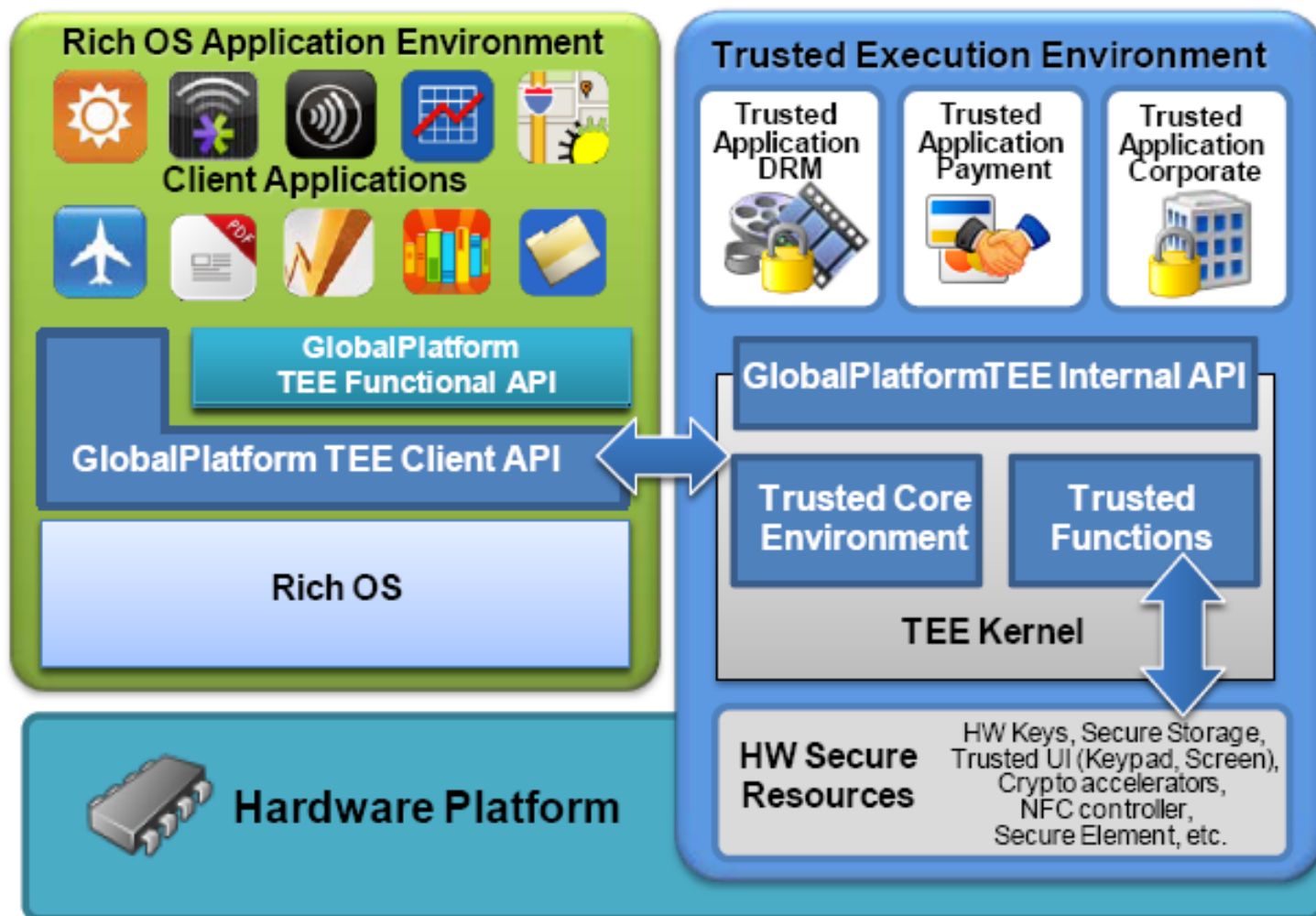
# Anatomy – 2 -



# Anatomy – 3 -



# TEE



# Secure Elements

## ➤ On Phone:

- Embedded SE



## ➤ Removable

- UICC / SIM
- Smart micro SD



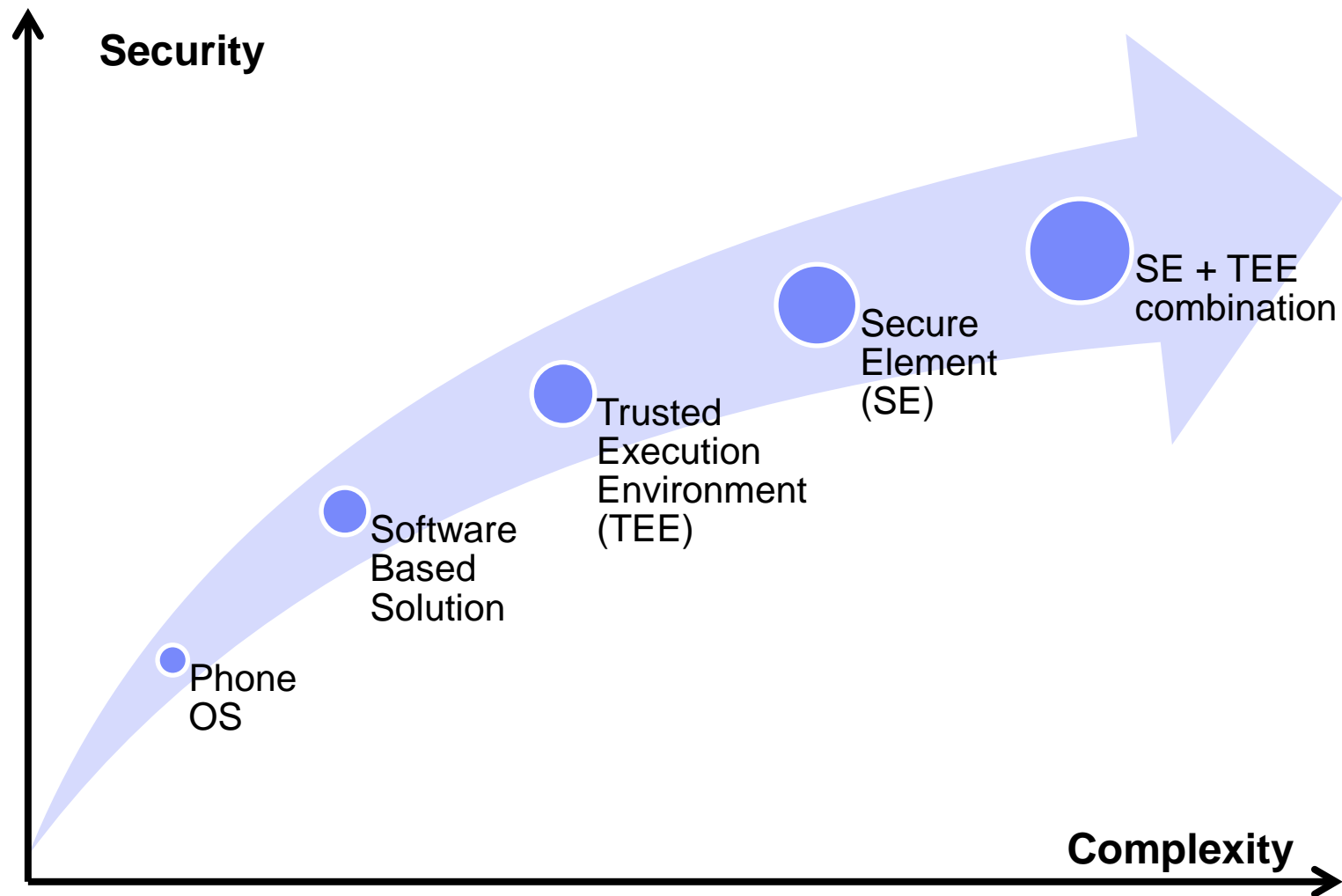
## ➤ Attached

- Phone Sleeves (ex. iCarte for Apple phones) (still harbours micro SD)
- Attached reader inserting ISO smart card
- Stickers

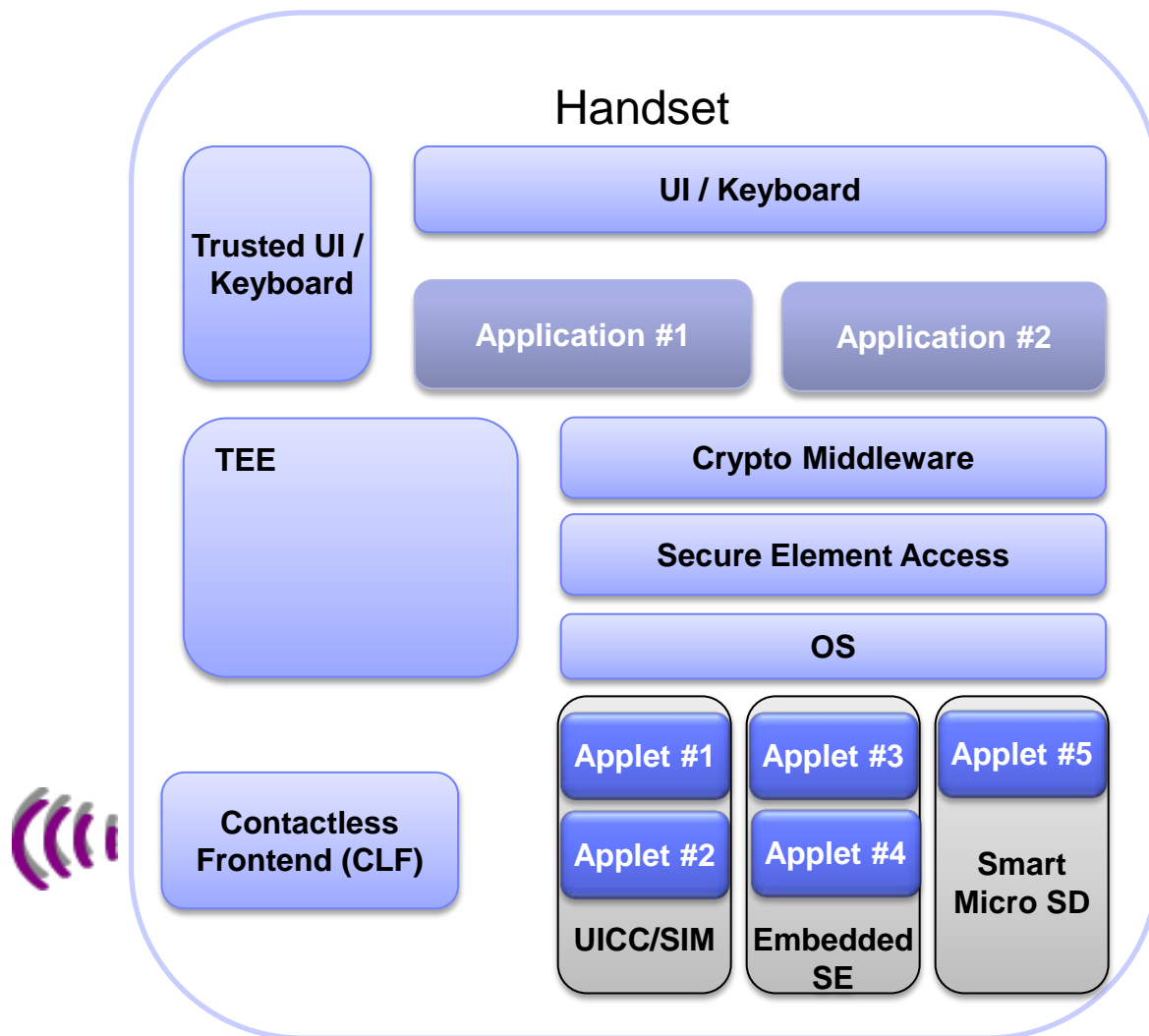




# Security Continuum



# Interfaces





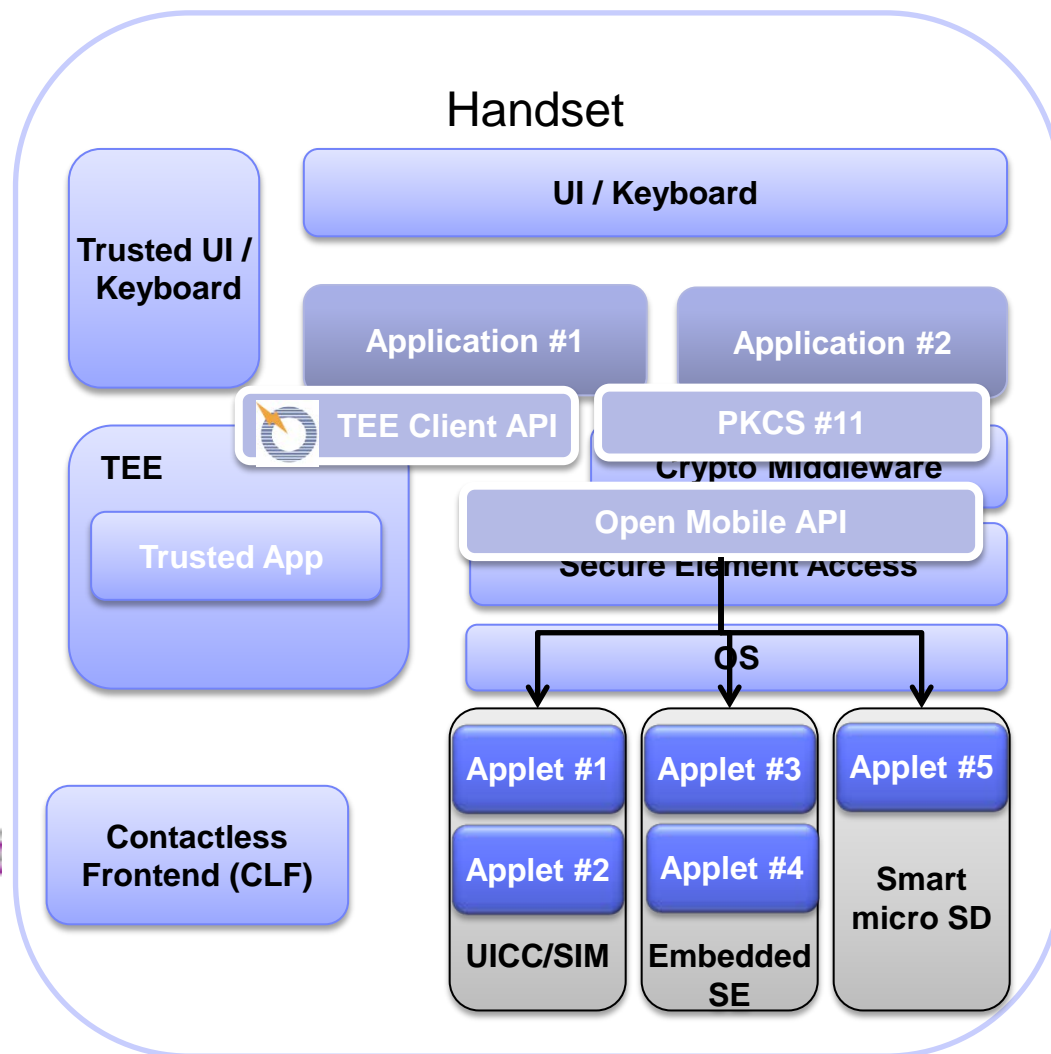
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# Security Interfaces and Secure Provisioning

- Gil Bernabeu
- Technical Director
- GlobalPlatform

# Interfaces - standardisation

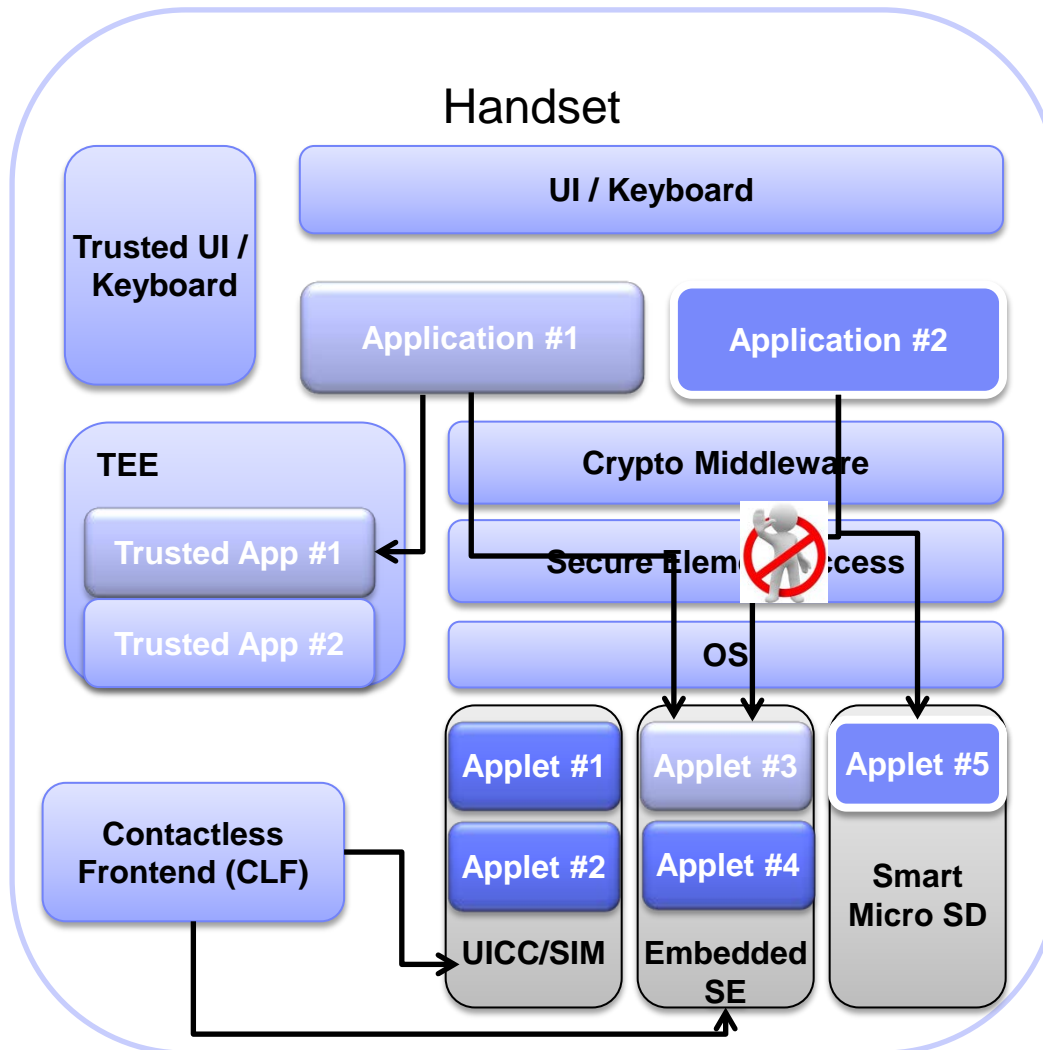


# Being Worked On

- Secure Element Access Control : which application has access to which Applets

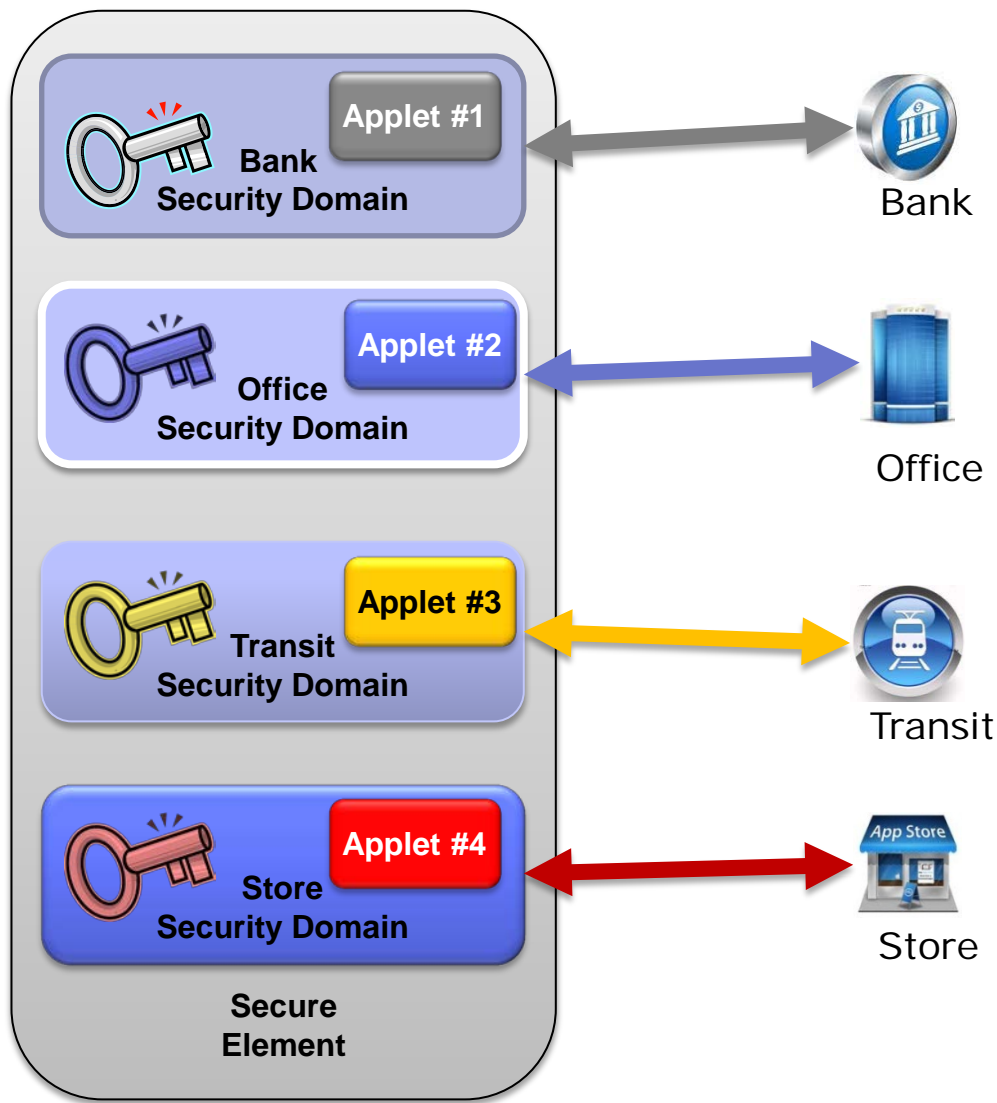


- Routing of NFC Services from CLF to multiple secure elements

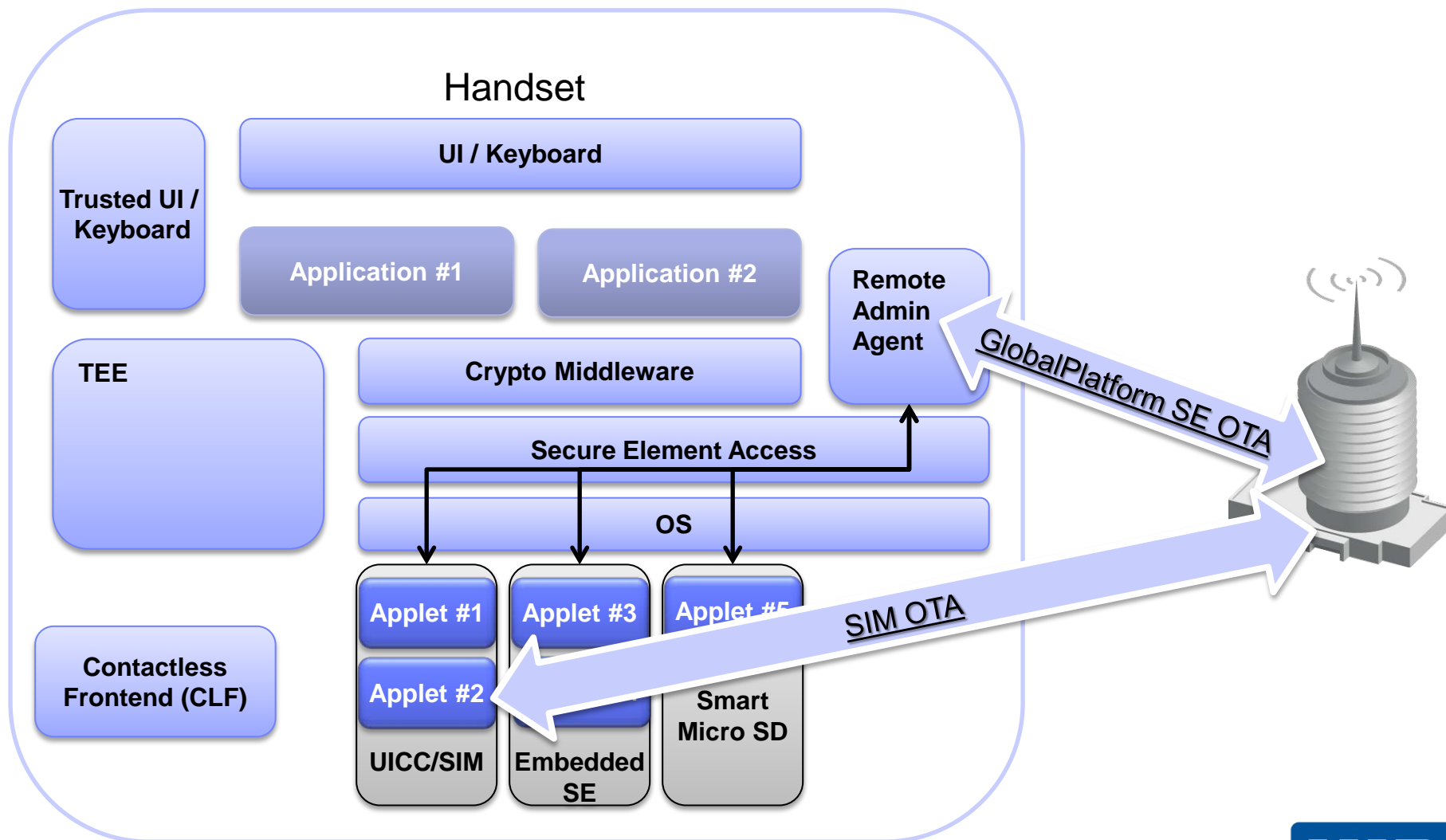




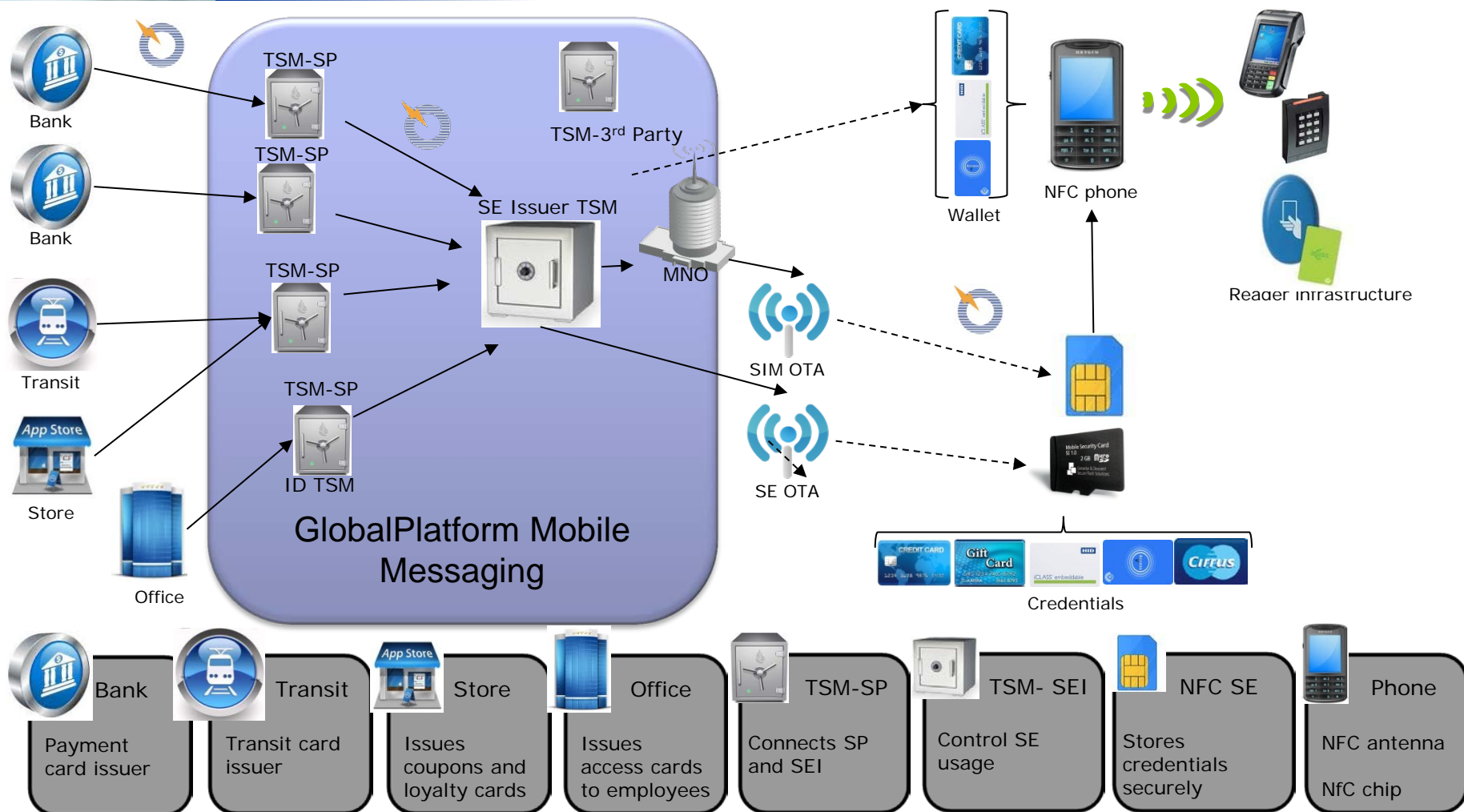
# Hosting multiple services



# Secure Provisioning



# Provisioning - TSM





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## Questions & Answers



# Mobile & NFC Security Webinar Series

- **Mobile/NFC Security Fundamentals: Secure Elements 101**
  - March 28, 2013, 1pm ET/10am PT
  - **Speakers:** Brent Bowen, INSIDE Secure; Greg Coogan, Morpho Cards; Sanjiv Rawat, Giesecke & Devrient; Sree Swaminathan, First Data
- **Mobile/NFC Security Fundamentals : NFC Forum Tags and Security Considerations**
  - April 18, 2013, 1pm ET/10am PT
  - **Speakers:** Tony Rosati, NFC Forum/Blackberry; Joe Tassone, Identive; Randy Vanderhoof, Smart Card Alliance; Mike Zercher, NXP Semiconductors; Rob Zivney, Identification Technology Partners
- **Mobile/NFC Security Fundamentals : NFC Application Use Cases – Security Perspectives**
  - May 9, 2013, 1pm ET/10am PT
  - **Speakers:** Rene Bastien, SecureKey Technologies; Jonathan Main, NFC Forum/MasterCard; Steve Rogers, IQ Devices; Tony Sabetti, Isis; Randy Vanderhoof, Smart Card Alliance





# NFC Solutions Summit 2013



## NFC SOLUTIONS SUMMIT 2013

SMART SECURE MOBILE PAYMENTS AND NON-FINANCIAL NFC APPS

May 15-16 | Hyatt Regency San Francisco Airport | Burlingame, California





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