# Intrinsic-ID launches operation in Japan

intrinsic ID

RED HERRING
WINNER
100
EUROPE

Under Press Embargo Until 30th November, 2011

# Company Introduction

- Security company delivering IP cores and SW
- Spin-out from Philips in 2008
- Strong patent portfolio

- IP business model (license fee + royalties)
- Offices in Eindhoven and San Jose
- Licensed to leading electronic companies
- Funded by PrimeVentures
- Launching operation in Japan, Tokyo

# Launching operation in Japan





Dr. Pim Tuyls initiated work on physically unclonable functions (PUFs) within Philips Research in 2002. He transferred this work to Intrinsic-ID and headed the technology development. His inventions have resulted in numerous patents. He co-authored the book Security with Noisy Data, which was published by Springer in 2007 and is the winner of the prestigious ICT Regie award.
Since May 2010 Pim is the Chief Executive Officer of Intrinsic-ID.

Okamura-san ('Kaz') brings 27 years of sales experience in the semiconductor, imaging/audio technology, processor, and IP business. He joined Intel Japan in 1985 and managed top accounts such as NEC, Fujitsu, and Toshiba as senior sales director for 14 years.
After that, he developed successful businesses for NuCore Technology and Sonaptic in Japan.
Prior to joining Intrinsic-ID, Okamura-san worked as Director Japan at Silicon Hive, where he successfully developed the Japanese market by building strategic relationships with leading electronic companies.

# Why Japan?

## Key Drivers: Mobile

• The number of Smartphone users in Japan alone is said to surpass 21 million by the end of 2011, and 60 million by 2014 according to an IDC Japan

• Also projected is a rapid growth in the content distribution market for smartphone products such as applications, music, games, videos, and electronic books

2011年12月
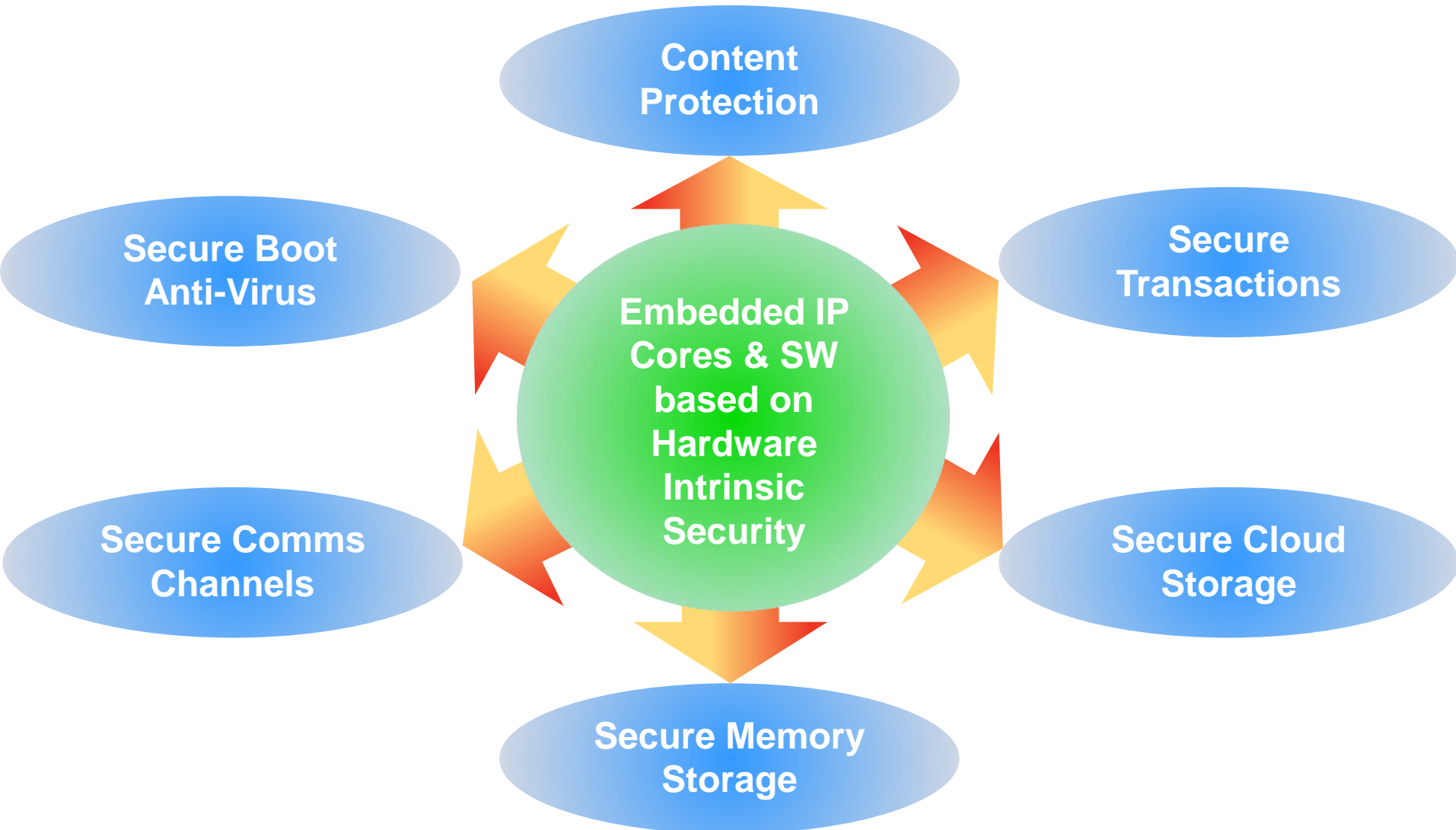
# Why Japan?

## Key Drivers: Cloud

- According to a recent survey conducted by Cloud Meeting 2011 among Japanese enterprises, the number one Cloud concern is security and information leakage

- 60% of Japanese enterprise users expressed serious concern about cloud security

# One-stop-shop Security Solutions



Content Protection

Secure Boot Anti-Virus

Secure Transactions

Embedded IP Cores & SW based on Hardware Intrinsic Security

Secure Comms Channels

Secure Cloud Storage

Secure Memory Storage

intrinsic ID

# Markets

SmartCards

Government & Military

Automotive

Embedded IP Cores & SW based on Hardware Intrinsic Security

Mobile

Conditional Access

Networking & Communication
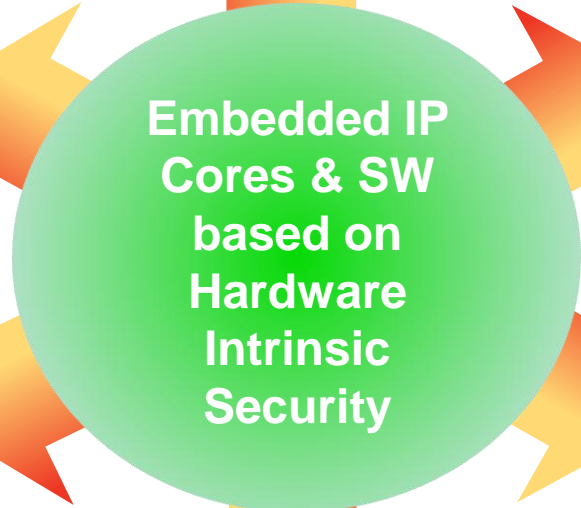
# Testimonials

**RENESAS**

*"The demands for encryption technology become more and more important for Consumer devices as well as for Industrial and Automotive devices due to their increasing connectivity to a network. To address these challenges, we believe cipher key generation and true random number generation using Physically Unclonable Function is very important technology. We advance our deployment of these technologies and further endorse HIS by our active participation as member of the HIS Initiative."*

*Masayuki Hirokawa, Department Manager, Renesas*

# Customers & Partners

ARM ecosystem partner

Resale to US government

Soft IP Alliance
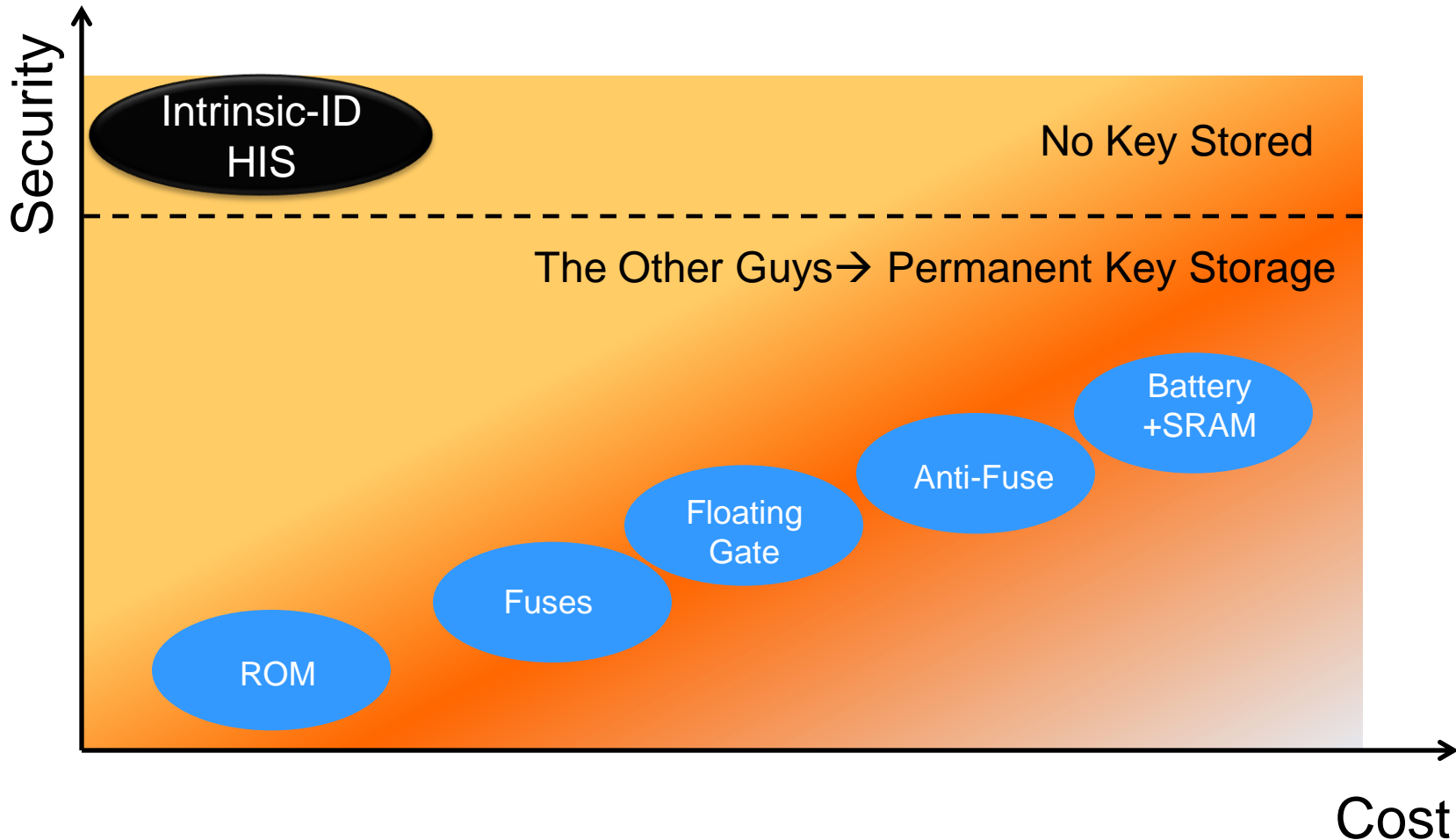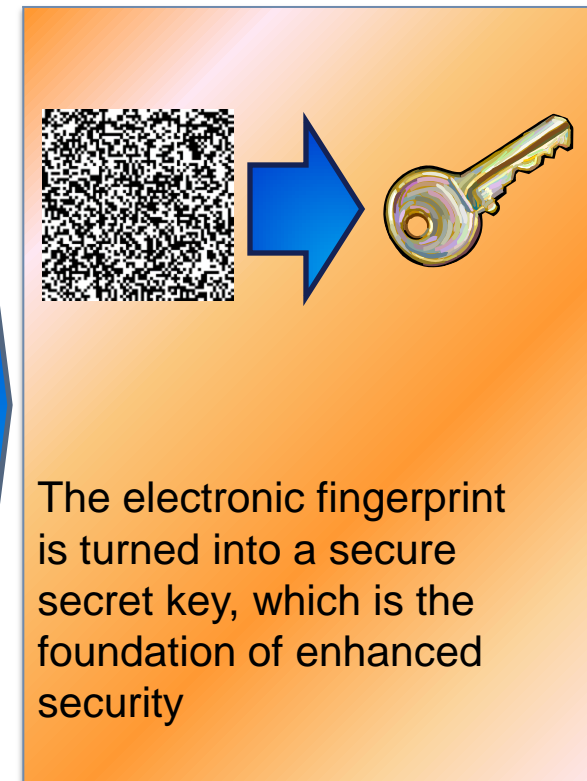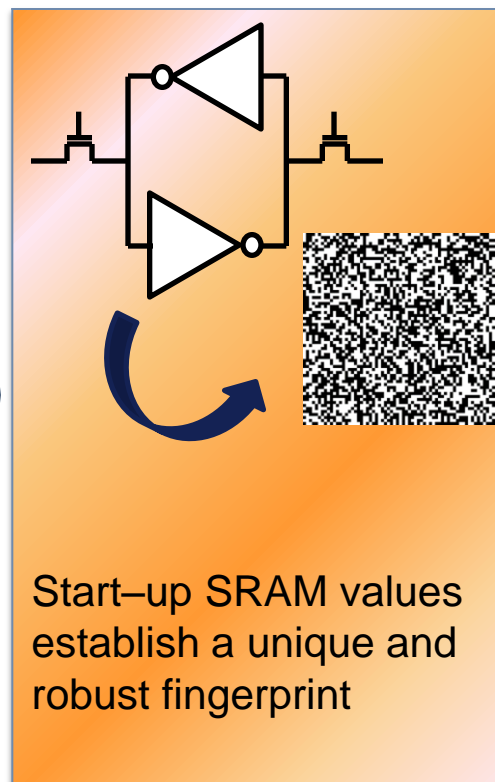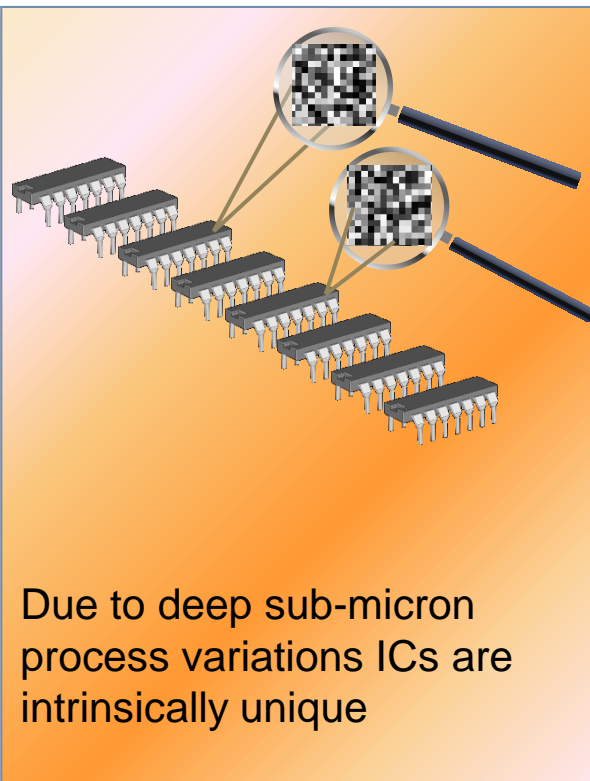
TAB member

THE HIS INITIATIVE

**LEADERS UNITE ...**
TO MAKE COUNTERFEITING A THING OF THE PAST

CISCO

Microsemi

MIPS TECHNOLOGIES

Oberthur Technologies

imec

intrinsic ID

irdeto

NXP

RENESAS

SiVenture
A division of NDS

TECHNIKON

tsmc

VIRAGE LOGIC

# Unique Value Proposition



Security

Intrinsic-ID
HIS

No Key Stored

The Other Guys→ Permanent Key Storage

Battery
+SRAM

Anti-Fuse

Floating
Gate

Fuses

ROM

Cost

# Hardware Intrinsic Security (HIS)



Due to deep sub-micron process variations ICs are intrinsically unique

Start–up SRAM values establish a unique and robust fingerprint

The electronic fingerprint is turned into a secure secret key, which is the foundation of enhanced security

Scientific Literature: 'Physical Unclonable Function' or PUF*

* 'Security with Noisy Data' as published by Springer, author: Pim Tuyls, ea

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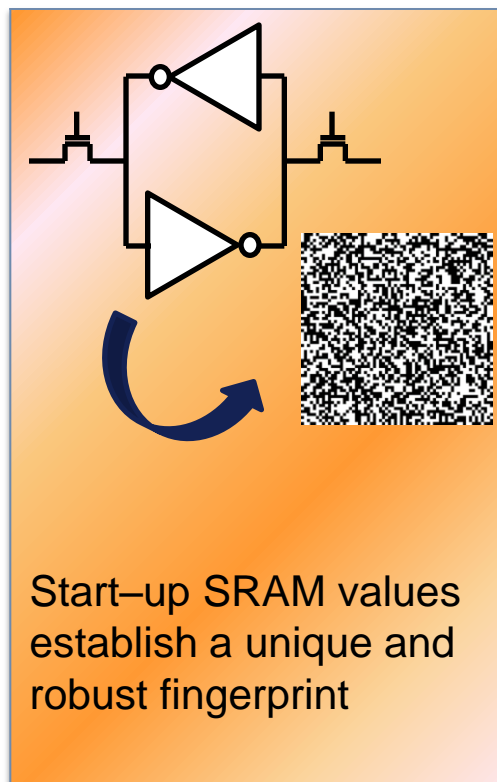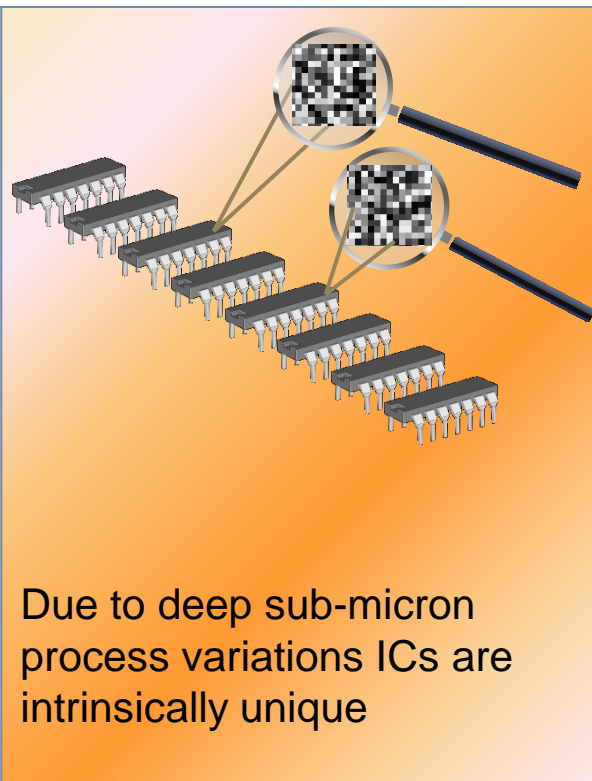
Like an electronic fingerprint of the chip

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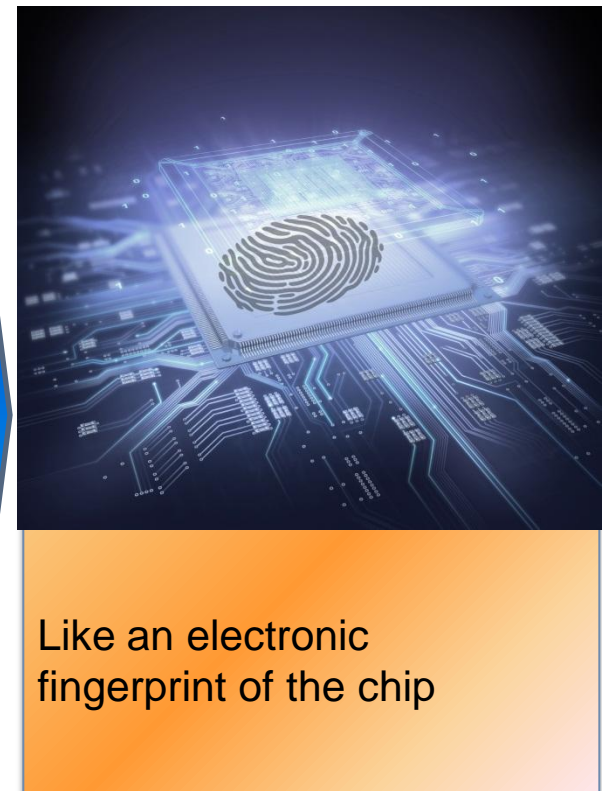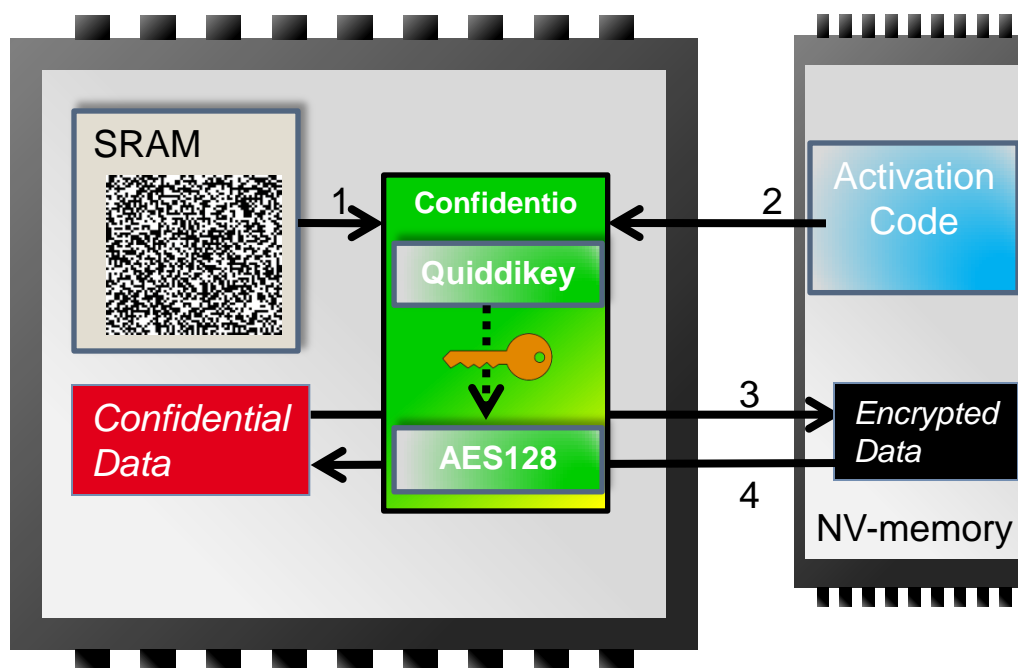
2011年12月1日（木）

# Conquering Copycats:
# The Key is Hardware Intrinsic Security

The fundamental security flaw in all current key storage mechanisms approaches is the permanent presence of the key in the device in a digital form within the device.
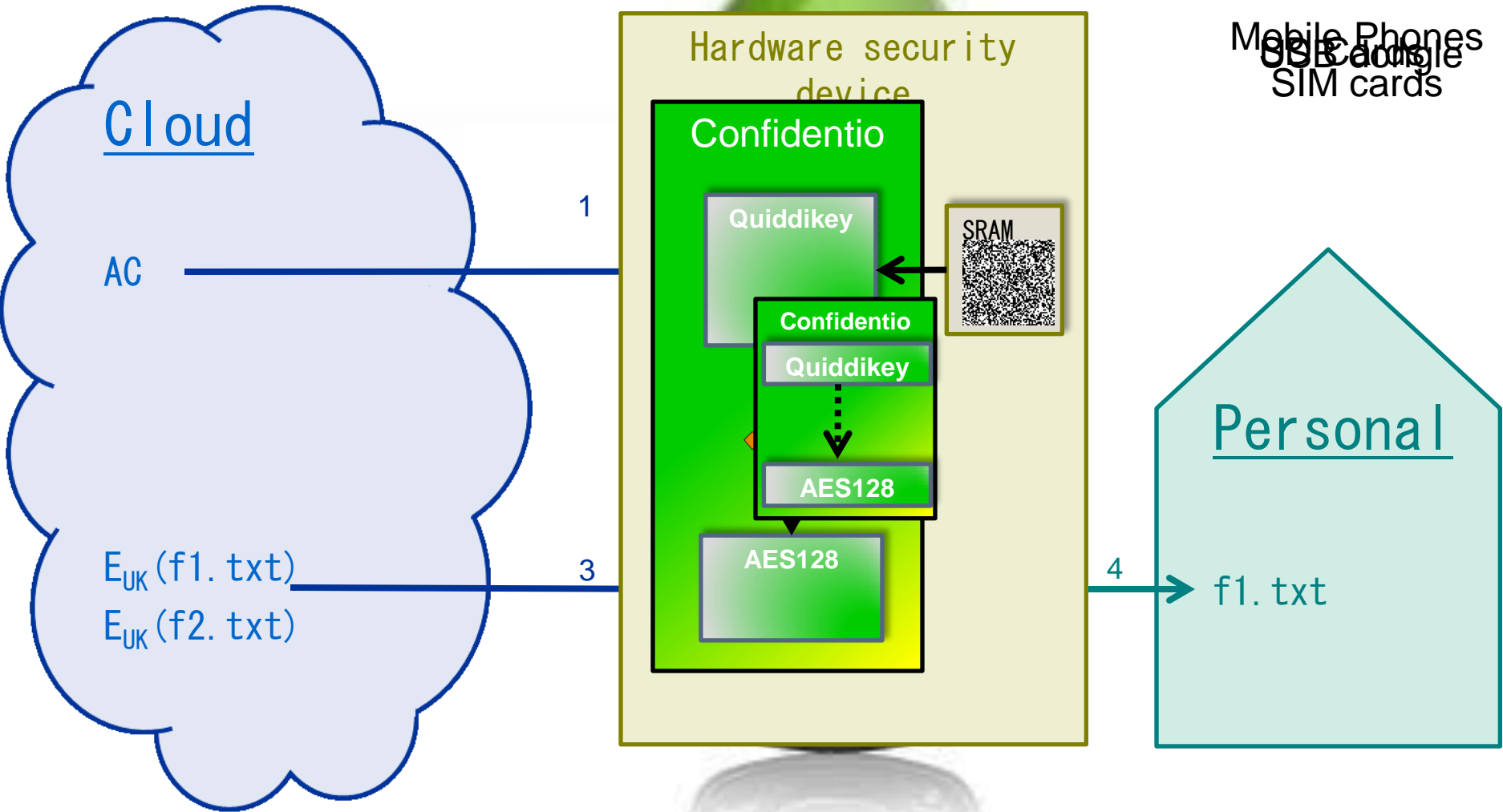
# Confidentio Security Processing Unit

- Securely integrated and optimized IP module, combines
  - Intrinsic-ID's flagship product QuiddiKey™ for secret key storage
  - a FIPS-197 compliant AES cryptographic IP core
  - Optionally includes dedicated SRAM bank of ~1KB (for 128-bit key)

# Cloud Storage Security Demonstration



**Cloud**

AC

$E_{UK}$(f1.txt)
$E_{UK}$(f2.txt)

Hardware security device

Confidentio

Quiddikey

SRAM

Confidentio

Quiddikey

AES128

AES128

Mobile Phones
USB dongle
SIM cards

**Personal**

f1.txt

1

3

4

# Intrinsic-ID
## Key to your Security



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