smart microSD

The Best Approach for NFC

May 2013

SD Today

- A global ecosystem of 1,000+ companies setting industry-leading memory card standards.

- Est. 8,000+ consumer electronics models manufactured by 400+ brands worldwide rely on SD standards.

- microSD is the #1 memory card form factor for mobile devices with ~95% of mobile memory card shipments

- 78% of all mobile phone shipments have a memory card slot
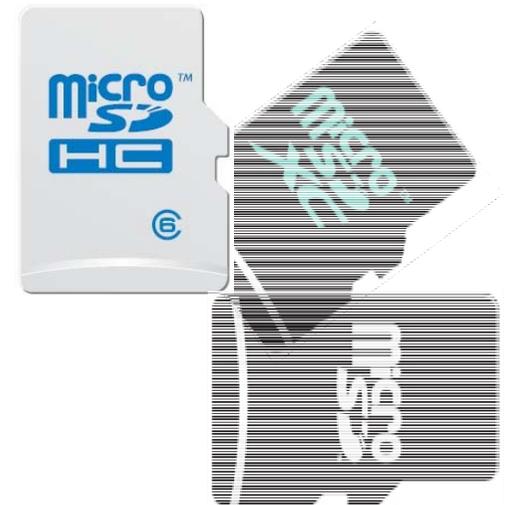
MOBILE PHONE

IS THE MOST CARRIED, CONVENIENT TO ACCESS,

#1 END USER DEVICE

MOBILIZATION OF SERVICES:
A REQUIRED STRATEGIC EVOLUTION

Mobilization of Security Services

CONTACTLESS CARD SERVICES

REQUIREMENTS:
- Contactless capabilities
- Adequate secure element

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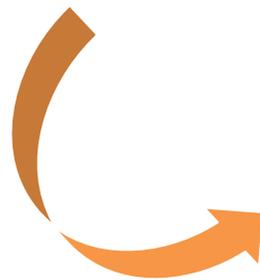
SECURITY TOKENS
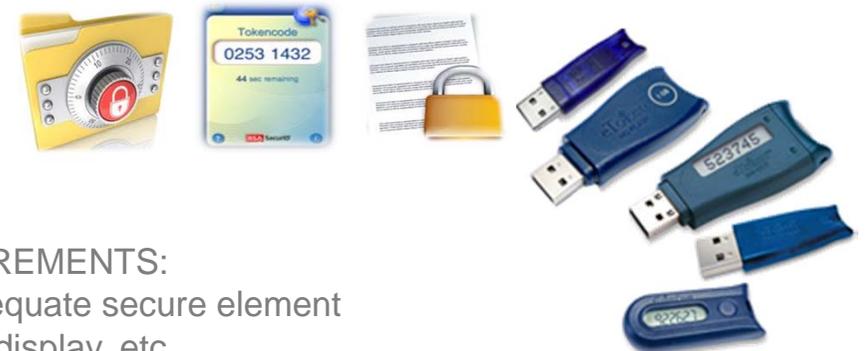
REQUIREMENTS:
- Adequate secure element
- +/- display, etc.

# Mobilization of Security Services

CONTACTLESS CARD SERVICES

SECURITY TOKENS

microSD with built in SE+NFC

- Antenna and SE embedded
- Global platform + JavaCard
- Proprietary solutions from various vendors (standard solution with ASSD protocol possible)
- Compatible with most phones with microSD

smart microSD with built in SE and external SWP connection to host NFC

- Specifications released and available
- Global platform + JavaCard
- SWP additional pin for NFC phones
- Additional ASSD protocol
- Compatible smart microSD compliant phones
- Standardized solutions available from various vendors

Meet all requirements
- ✓ Contactless capabilities
- ✓ Adequate secure element
- ✓ Display for enhanced user experience

microSD
KEY BENEFITS
FOR SERVICE PROVIDERS

Largest Reach and Worry-Free

- ☐ Users' current phone (with microSD)
- ☐ Any mobile operators
- ☐ Any mobile plan
- ☐ Phones with and without* NFC
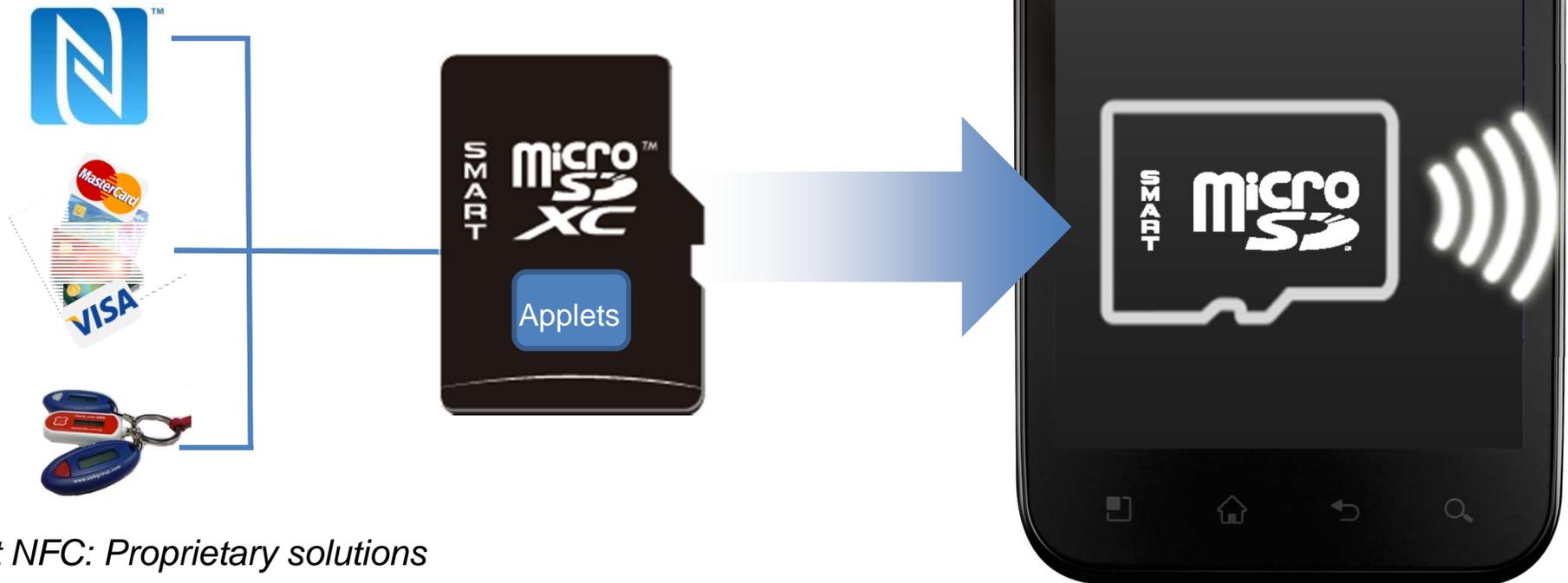
Without NFC: Proprietary solutions

User's Current Phone

Business Independence

☑ **Easier launch. Lower cost.**
- ❏ No need for 3rd party agreement
- ❏ No upfront TSM integration

☑ **Large choice of business models**
- ❏ No rental fees
- ❏ User subsidized
- ❏ You decide

☑ **Differentiation**
- ❏ Full control the App and the user experience

User's Current Phone

YOUR BRAND
YOUR APP

SMART microSDXC

Applets

Fits Existing Business Process

Same distribution process as for existing contactless cards or tokens

Mobile App

JavaCard Applet (TSM or Local)

smartSD memory cards can be distributed
PERSONALIZED

- *Postal/mail*
- *On-site issuance*

And also memory card distribution
- *Traditional retail peg packaging and more*

& TSM COMPATIBLE

Service Delivery Kept Simple

AWARENESS

Value propositions for the end user

Get Yours!

Service Providers | Retailers | Payment Network | MNO | Handset Maker

I want to get those benefits

End user journey

Enjoy the NFC-enabled service

Download Service mobile App

Purchase NFC HW or use existing one
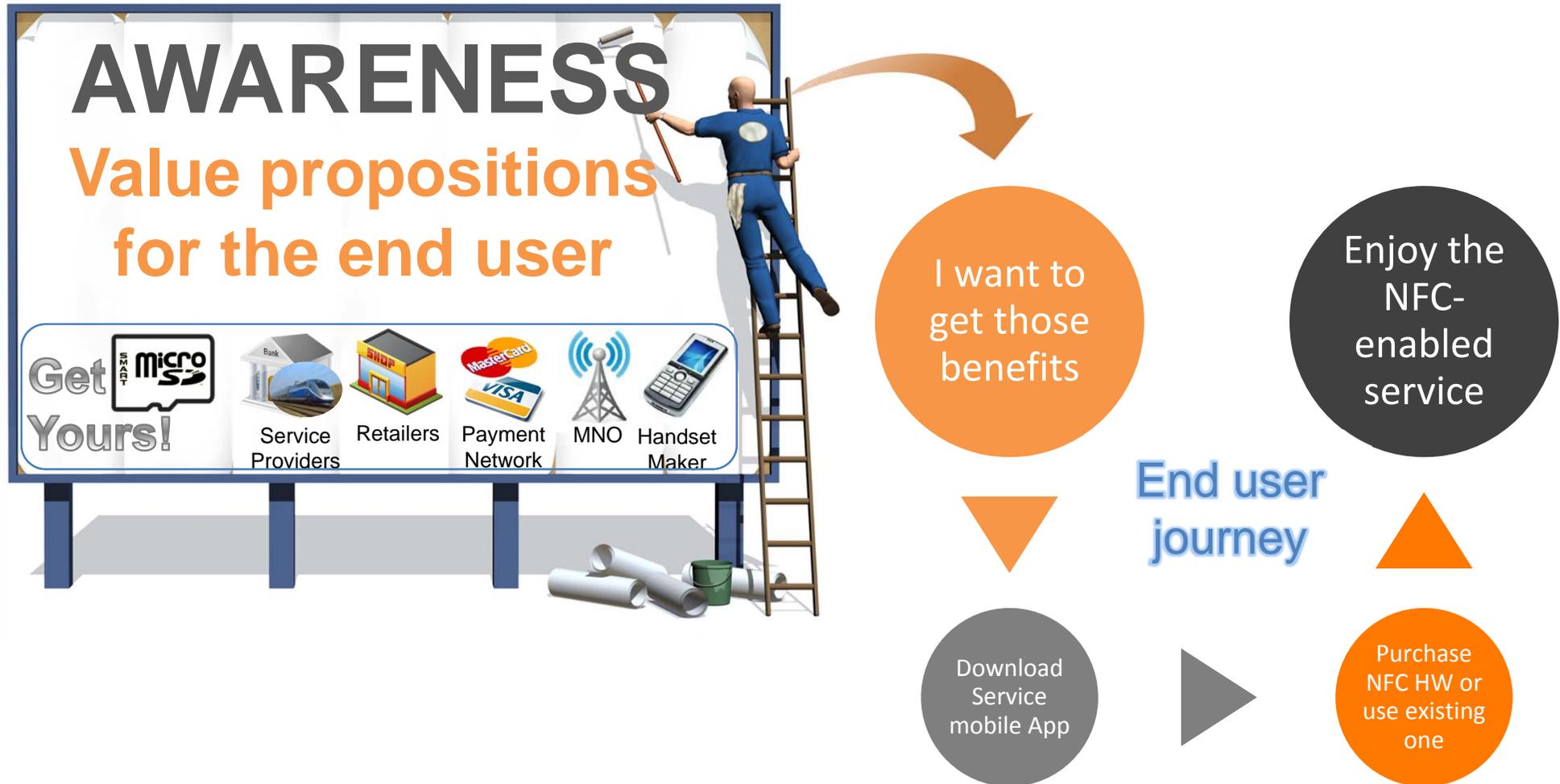
END USER KEY BENEFITS

End User Benefits Summary

Instant gratification

Easy to change mobile operators

Easy to upgrade a mobile device

Control apps and applets

Creates larger ecosystem of vendors

Extra storage for PC, phones tablets, etc.

CARD ISSUER
KEY BENEFITS

Benefits for Card Issuers

Typical card issuers:

|			

• Business Independence
• Larger reach:
    • Any user
    • Any phone
• Lower up-front cost
	• Typical retail model & revenue
	• Opportunity for new revenue streams from services
		• Lower up-front cost for NFC (Targeted users)
		• Reach more users and possibly acquire subscribers from competition
			• New TSM opportunities
			• Business independence
			• Large Reach
			• Direct relationship

Service Providers	Retailers	Mobile Operators	TSM operators

CONSUMER CENTRIC MODEL

Consumer Centric Overview

Online Access & Authentication

Tokencode
0253 1432
44 sec remaining

Privacy & Data Security

Digital Signature & non-repudiation

Plus many more token Apps

Bank

Service Providers

Retailers

MNO

Payment Network

Perso Bureau

Handset Maker

Wallet/OS Developer

Banking and Payment

Transit & closed systems

Physical access control

And many more NFC services

✓ **End user control of Apps/Services**
✓ **Choice of Distribution channels and retailers**
✓ **No constraints.**

Consumer Centric Model
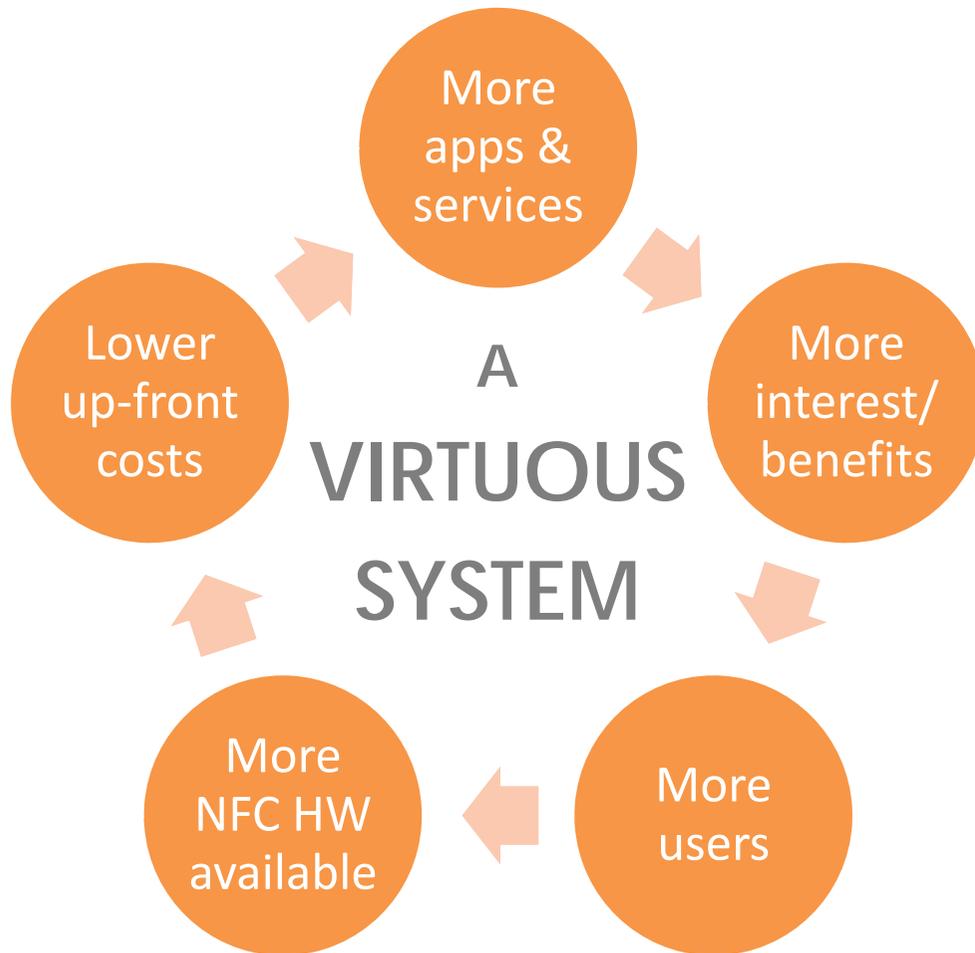
A model focused on

creating value for all parties

Versus controlling the secure element to milk the service providers and reduce churn

SD Association

- ☐ Hardware Spec   **Available**
- ☐ Underlying Hardware   **Available**
- ☐ Smart microSD logo   **Available**
- ☐ Consumer Centric model   **Ongoing**
- ☐ App and Services   **Waiting for you to adopt**

THANK YOU

www.sdcard.org/developers/overview/ASSD/smartsd/

www.sdcard.org