



NFC Services - rethink the application lifecycle and the application environment

Péter Párkányi,
Stolpan

www.stolpan.com

StoLPaN: (Store Logistics and Payment with NFC)

Independent R&D consortium working on

1. Mobile NFC frameworks
2. NFC related enhancements of the retail value chain, help the introduction of the item level tagging

Introduction

Stolpan:

22 companies

European Commission project

3 years length, started July 2006

Target:

Release of a NFC framework description (White Papers)

Review of **INTEROPERABILITY**

The NFC market

- The Start of NFC is here
 - embedded NFC handsets are commercial
 - SWP, HCI are standards
 - Many pilots prove the need for NFC
 - The mobile operators are interested
 - Card associations are interested
 - Deployment starts when UICC handsets are here

The NFC market

- The Start of NFC is here
- There are a lot to do
 - Service Provider NFC applications
 - Commercial agreements
 - etc.

**IS THE APPLICATION
ENVIRONMENT READY?**

Service Provider requirements

- User experience – same or better
- 1 application for all handsets
- Simple production & maintenance
- Support of differentiators

User requirements

- Easy access to new services (transparency)
- Easy to use and stable service (incl. customer service)
- Back up service / Service map

Identified risks

- How easy to get access to a new service for download?
- How well can it fit into the NFC wallet
 - application selection protocols
 - NFC event handling (cross platform transparency)
 - use of menu
 - back up functionality and service map management
 - use of restricted resources
(branding and communication channel control & other resources)
 - quality of services lifecycle management
(installation in one go, deletion w/o remainings)

NFC dream – seamless mobility

1 - The user get's a URL to an NFC service via

- a Smartposter (newspaper ad, on the wall)
- an SMS from a friend
- an SMS from a company
- the WEB on his PC
- the WAP on his phone

2 - By one or two clicks he get's access to this service, downloads onto his phone and starts using it.

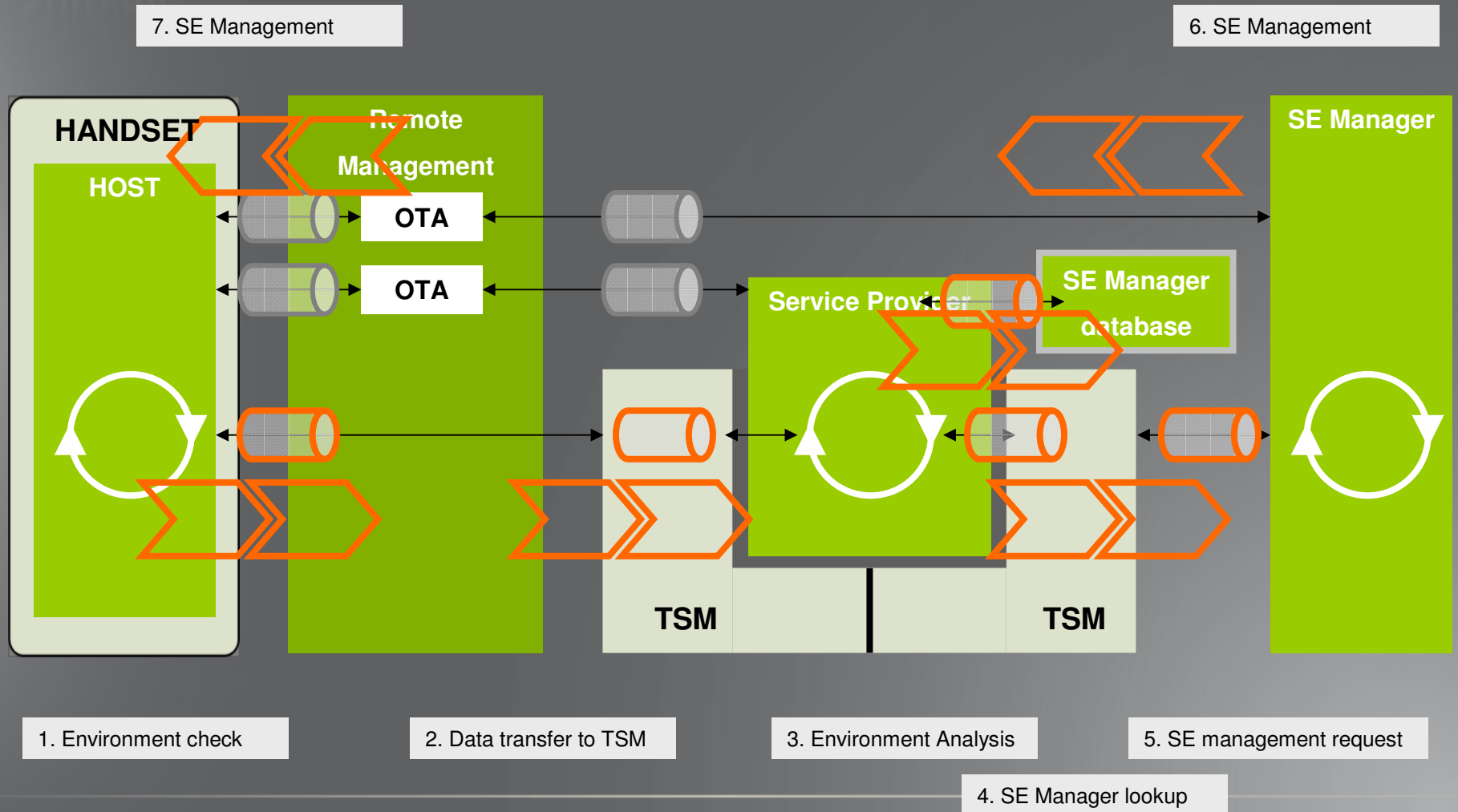
3 – Makes back-up, reload on the application or he deletes it on the way as he got used to do it with any other NFC app on his handset.

4 - He gets one bill for all NFC related services unless it is bundled with other services and gets no bill for NFC at all.

NFC dream – seamless mobility

- Stolpan has developed an application issuance procedure for the seamless application access and download.
- Stolpan has analyzed the NFC application requirements and developed a concept of a host application for NFC applications.
 - This is the second generation of NFC wallets what enables plug & play use of NFC services.
 - This and the issuance protocol we developed together address the requirement #1 for seamless NFC environment: easy access to new services.

StoLPaN - Application Issuance



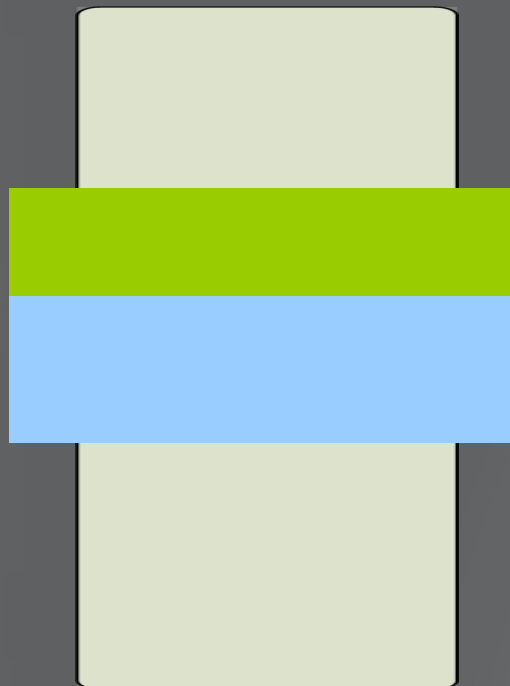
The StoLPaN HOST environment

- In 2006 we started with use case analysis.
(payment, transport, access, ID, loyalty)
- We identified that for the Multiapplication environment we have to review the
 - application selection models (e.g. PPSE)
 - transport application models
 - mono or multi SE structures (e.g. HCI)
 - restricted resource management in handset
(SE access, NFC modem access, network channels)
 - different platforms (UICC, Embedded, SDIO)

The StoLPaN HOST environment

- Conclusions of the environment review:
 1. no UICC handset
→ short term we *have to focus on J2ME*
 2. Branding + consequent UI control + resource management
→ centralized control of the UI and workflow element in a component based model

The StoLPaN HOST environment



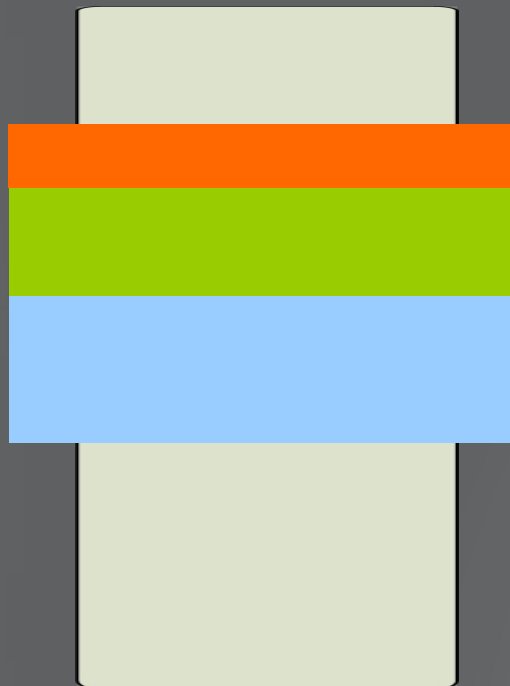
UI component to Cardlet

Application environment (e.g. J2ME environment)

Drivers, APIs access to SE (native)

Legacy Cardlet

The StoLPaN HOST environment



UI component to Cardlet

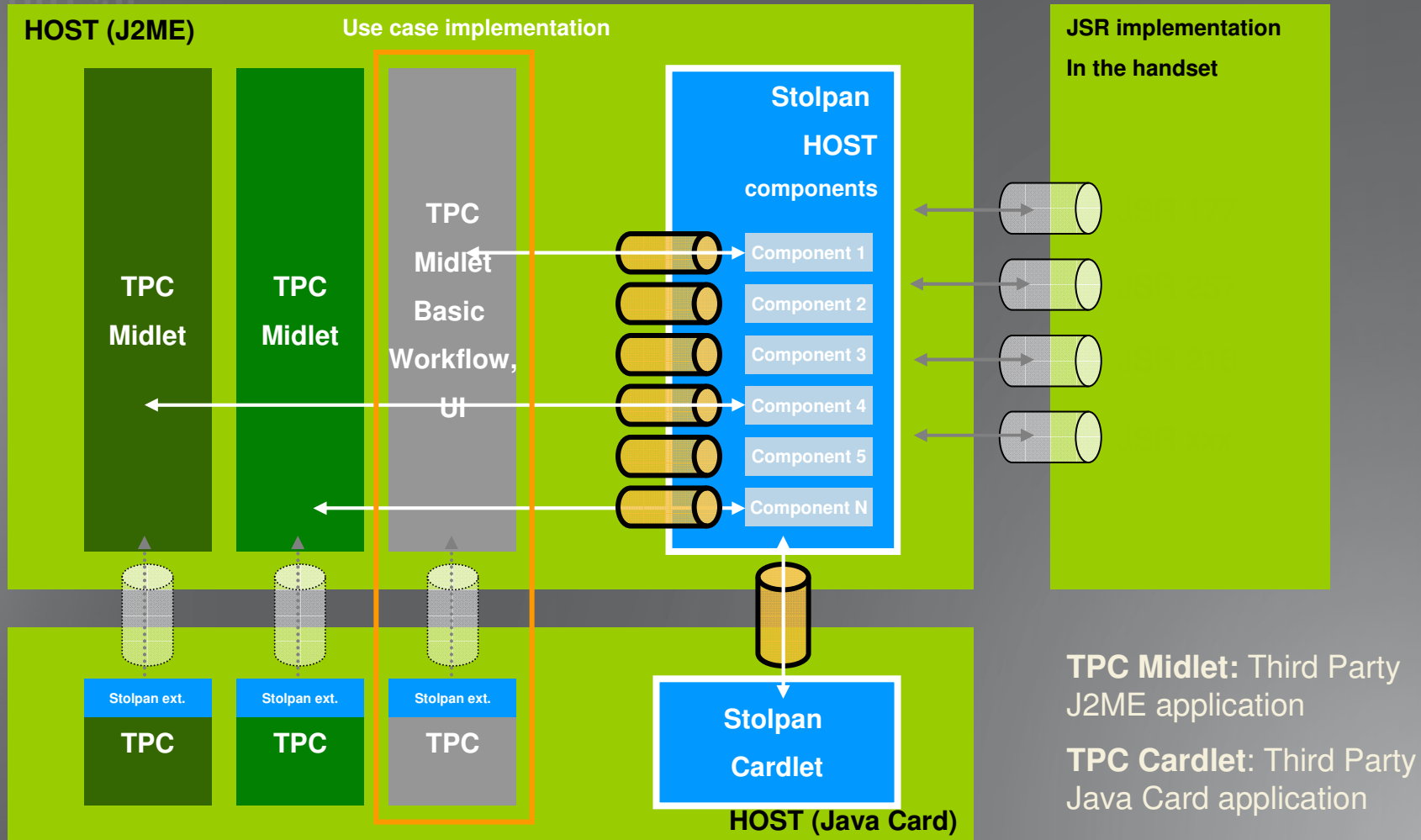
Stolpan host or equivalent wallet

Application environment (e.g. J2ME environment)

Drivers, APIs access to SE (native)

Legacy Cardlet

The StoLPaN HOST environment



Conclusions

The application environment has to be „standardized”

The application issuance process has to be seamless.

StoLPaN has defined a process. White paper is issued.

StoLPaN has created a component based HOST application in J2ME for service providers for the

- easy deployment of services (easy access)
- the sake of controllable environment (Quality of User Experience).

Conclusions

„How can NFC Services be Improved by Refining the Technology”

1. Need to review the application environment from Interoperability point of view in sake of seamless use of NFC services
2. Need to accept and use enhancements for the application issuance in sake of seamless access of NFC applications

Thank You !

Péter Párkányi

parkanyi@stolpan.com

Mobile: +36 70 318 8854

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