

## Sprint – BART Transport Trial Overview

**Hans Reisgies**  
**Director, NFC Business Development**



# about ViVOtech

## Enabling 3<sup>rd</sup> Generation Payment Technology

- ✓ Market Leading Contactless Readers for Point of Sale
- ✓ NFC Software Solutions for All Ecosystem Participants
- ✓ Transaction Software: Prepaid/Gift, Smart Posters, eCoupons



## Serving Customers Worldwide

- ✓ Over 120 Employees Worldwide

Headquarters: Silicon Valley

Design Centers: Silicon Valley, New Delhi

Support Centers: London, Singapore,  
Tokyo, Frankfurt



## Experienced Team with Strong Backing

- ✓ **VC's:** Draper Fischer Jurvetson, Alloy Ventures
- ✓ **Key Investors:** Nokia, Motorola, First Data, NCR, Citibank



Best Vendor  
Partner Award

Top Contactless  
Technology Provider  
2007

Aberdeen Group

2005

FROST & SULLIVAN

Electronic Payment  
Enabling Technology of the Year Award



# Sprint-BART Trial Overview

## Sprint, BART, Jack-In-the-Box Trial Objectives

- Integrate with Existing Commercial Systems
- Multiple Issuers/Segments Possible?
- User Management via Phone Only?
- Top-Up of ePurse and Online Cards Possible via Phone?



## Scope of Trial

- Launch January 2008 thru May 2008
- Any Existing Sprint and BART EZ-Rider Invited
- 250 Consumers Switched Their Primary Phone to NFC Phone



## Supporting Partners

- ViVOtech: NFC Software Technology Provider
- Samsung: NFC Phone Providers
- First Data Corporation: JIB Card Issuance and Top-Up Processing
- SpeedPay: BART Top-Up Transaction Processing





# Highlights of Sprint-BART Trial

## • Bay Area Rapid Transit (BART)

- BART System based on MiFare card (ePurse style)
- Reuse of Existing BART Readers in Fare Gate System
- Users Register for Auto-Top Up via Phone UI

## Jack-In-the-Box

- Jack-in-the-Box Stored Value Card based on MiFare (Online style)
- Jack-in-the-Box readers deployed by Card Associations
- Users Register for Top-Up on Demand on Website

## Samsung a920 CDMA Phone

- NFC is not just for GSM world
- No SIM, No Problem with Embedded NXP SmartMX Secure Chip
- Single Wallet, Multiple Applications from Different Issuers
- User Initiates the Download of Cards from the phone (not the web)

*And...*



# Latest Trial: Sprint/BART/JIB Trial

## Full OTA Provisioning or Transit and Merchant Cards

1. Tap your phone on "Find Your Burger" NFC Poster at the Powell BART Station in San Francisco



2. Get directions to the nearest Jack in the Box on your phone screen



One of my places isn't far from this BART stop at the POWELL ST. STATION

To get to the nearest Jack in the Box at 808 Mission St.

1. Head northeast on Market St. toward Stockton St.
2. Turn Right at 4th St.
3. Turn Right at Mission St.



3. Pay for your meal with your Jack CASH prepaid card on ViVOpay readers



Click the link below to view coverage from local TV stations:  
<http://www.vmsdigital.com/MyFiles.aspx?Onum=3922B685-F72E-4AE5-8707-C8F22E7F333F>  
<http://cbs5.com/video/?id=30620@kpix.dayport.com>



# ViVOTech 'Firsts' in Piloting NFC Globally

## VIVOtech<sup>®</sup> NFC Pilots

**First Australian NFC Mobile Phone Payment Pilot - December, 2008**



NFC payment pilot in Australia

**First-in-the-Nation NFC Mobile Payment Trial for Transit & Food - January, 2008**



NFC payment pilot in Singapore

**First NFC Wallet Solution with Biometric Control - June, 2007**



NFC payment pilot in the United States

**First e-Purse NFC Mobile Phone Solution with Top-Up using Branded Cards - Sept, 2007**



NFC payment pilot in Singapore

**First OTA Solution to Support Both Credit and Debit - January, 2007**



NFC payment pilot in the United States

**First OTA Solution to Support Both Coupons and Payments - February, 2007**



NFC payment pilot in Taiwan

**Only Supplier in Both Visa Wave and MSD NFC Pilots**



Flyby NFC phone payment pilot in Atlanta



Visa<sup>®</sup> Wave pilot in Malaysia

**Participating in Most NFC Payment Trials to Date**



Launched in the United States, Dec., 2006



Launched in Amsterdam, Oct., 2006

# Commercialization Will Drive Huge Rewards ...But Will Not Come Easily

## Four Commercialization Threshold Factors:

- 1. Mass deployment of Contactless Card Infrastructure**
  - Issuance and Acceptance
  - Payments and/or Transportation
- 2. The merger of ecosystems with unrelated expertise**
- 3. A collaborative business model based on compelling applications**
- 4. Deployment and integration of the right technology architecture**



# Danke!

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**Top Contactless  
Technology Provider  
2007**

Aberdeen *Group*



**Ranked #1 Contactless  
Reader Vendor  
2007**

**ABI**research®



**ETA**  
TECHNOLOGY  
INNOVATION  
AWARD  
2005



**TW** Transaction  
World  
Magazine  
**2005  
MOVERS & SHAKERS  
AWARDS**



# Illustration of A Service That Will drive the Business Model – Smart Poster

2. Consumer and Tag ID info sent to Back-End

1. Customer Taps NFC Smart Poster at Retailer

Generic Promotion Poster



Tag I.D.

Consumer I.D.

vivoplatform  
Control Server

Mobile Marketing,  
eCoupon, Offers



vivoplatform  
Issuing Server



Customer #1



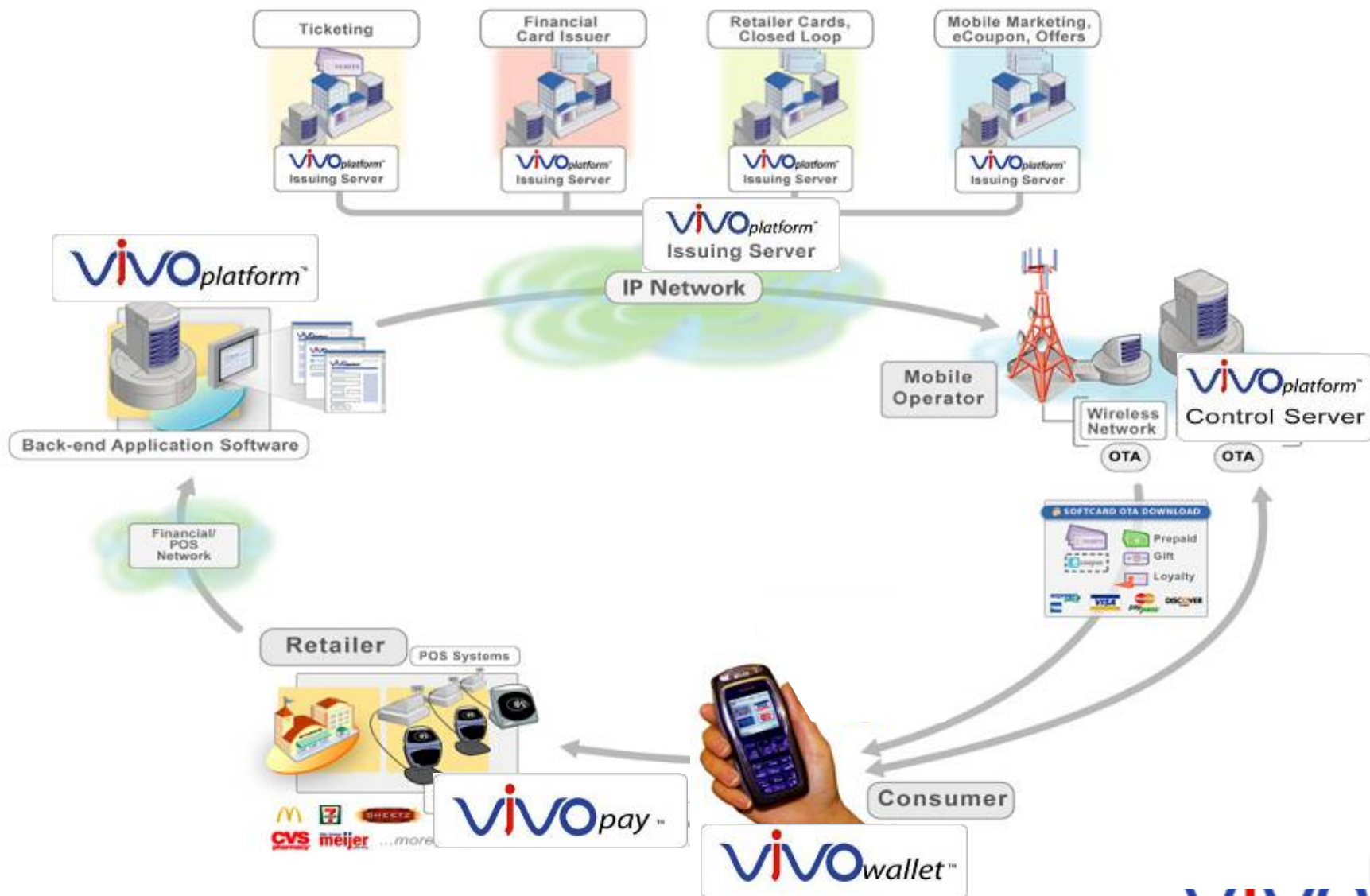
Customer #2



Review all promotions



# Solutions That Enable 3<sup>rd</sup> Generation Payment & Marketing Ecosystems



# Embedded Chip vs. UICC vs. Both?

## Recent ETSI Vote:

- Allows for all secure storage options
- Defines Standard HCI without Proprietary OEM Commands

## Best UICC SIM + NFC Phone with:

- New ETSI HCI (*pending approval from NFC Forum*)
- MasterCard/Visa Certification
- MiFare (*licensing from NXP/Infineon*)
- MISD with Adjustable Memory Size (*GP 2.2, A/B/C/D*)
- Expected commercial availability: **Q3-2009**

## Choose OTA Solution that Supports All Storage Options

- Embedded Chip: **Fall 2008** (*Launch Transit, Bus, Payment, Coupon*)
- Hybrid: **Spring 2009** (*HCI/SWP Phones will be ready before SIMs*)
- UICC: **Fall 2009** (*Full Support with Pricing Leverage*)