The Worldview of NFC

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NFC Solutions Summit
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What will it take to achieve global adoption of NFC?
What will it take to achieve global adoption of NFC?

Many of the key ingredients are already here.
1. NFC-Enabled Devices
NFC Phones Here Now

Available in the market…

Acer Cloud Mobile (S500)
Acer E320 Liquid Express
Acer Liquid Glow
Alcatel One Touch 922
Alcatel One Touch 996
Asus Padfone 2
Asus Padfone Infinity
Blackberry Bold 9790
Blackberry Bold 9900/9930
Blackberry Curve 9350/60/70
Blackberry Curve 9380
Blackberry Q10
Blackberry Z10
Cmii 1/3
Casio DT-X8
Casio G’zOne CA-201L
Casio Ruggedized IT-800 RGC 35
Fujitsu Arrows µ F-07D
Google Galaxy Nexus
Google Nexus 4
Google Nexus S
More NFC Phones Available Now

- HTC Desire C
- HTC Droid DNA/HTC J Butterfly
- HTC Droid Incredible 4G LTE
- HTC Evo 4GLTE
- HTC First
- HTC Incredible
- HTC One SV
- HTC One VX
- HTC One X/XL
- HTC Ruby / Amaze
- HTC Windows Phone 8x
- Huawei Ascend Y201
- Huawei Sonic/Turkcell T20
- Lenovo K800
- LG Mach
- LG Optimus 3D Max/3D Cube
- LG Optimus 4X HD
- LG Optimus Elite
- LG Optimus G
- LG Optimus L5/L7
- LG Optimus LTE/2
More NFC Phones Available Now

LG Optimus LTE Tag
LG Optimus Net
LG Optimus Vu
LG T530 Ego
LG Viper
Mobiwire Cosyphone
Motorola Droid Razr/HD
Motorola Droid Razr M
Motorola Droid Razr Maxx HD
Motorola MC75A HF
Motorola Photon Q 4G LTE
Motorola Razr i/MT788
Nokia 603
Nokia 700
Nokia 701
Nokia 801T
Nokia 808 PureView
Nokia C7 / Astound
Nokia Lumia 610 NFC
Nokia Lumia 620
More NFC Phones Available Now

- Nokia Lumia 720
- Nokia Lumia 820
- Nokia Lumia 920
- Nokia N9
- Nokia Oro
- Orange Infinity 996
- Orange San Diego
- Pansonic Eluga
- Pantech Discover
- Pantech Sky Vega LTE
- Pantech Sky Vega Racer
- Porsche Design P'9981
- Prada by LG 3.0
- Samsung Ativ Odyssey
- Samsung Galaxy Ace 2
- Samsung Galaxy Axiom
- Samsung Galaxy Mini 2
- Samsung Galaxy Note/II
- Samsung Galaxy Premier
- Samsung Galaxy S Advance
- Samsung Galaxy S Blaze 4G
- Samsung Galaxy S Advance
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More NFC Phones Available Now

- Toughshield R-500
- Turkcell MaxiPRO5
- Turkcell T11 Maxiphone/ZTE Racer II
- Vertu Ti
- Xolo X900
- Yulong Coolpad 8870 NFC
- ZTE Blade II
- ZTE Grand X IN
- ZTE Kis
- ZTE Orbit
- ZTE Turkcell MaxiPLUS5

And more being released…
NFC Tablets

A fast-moving new segment, with several models recently announced and put on the market with more rumored to be in the works:

- The Sharp RW-T110 NFC Tablet announced in March expands on the NFC capabilities of the RW-T107 Tablet from 2011.

- Google Nexus 7 was announced in June 2012, and is now available in the US, UK, France, Germany, Spain, Canada, and Australia.

- TazPad from TazTag aimed at retail was launched in France.

- Samsung Galaxy Note II phone/tablet with NFC – release and launch dates coming soon. Samsung also is rumored to be prepping a new tablet with NFC functionality.
Some NFC enabled tablets currently on the market or announced as coming soon…

- Asmaitha Sruta 7” Tablet
- Asus Padfone Infinity
- Asus Vivo Tab/Tab RT
- Asus Vivo Tab Smart
- DLI 9000
- Google Nexus 7
- Google Nexus 10
- HP Elitebook Revolve
- Kuoziro FT701W
- Lenovo ThinkPad Tablet 2
More NFC Tablets

Some NFC enabled tablets currently on the market or announced as coming soon…

- LG Optimus Vu
- Panasonic BizPad
- Samsung Galaxy Mega
- Samsung Galaxy Note/Note II
- Sharp RW-T107/T110
- Sony VAIO Duo 11
- Sony VAIO Tap 20
- Sony Xperia Tablet Z
- TazTag TazPad
- Panasonic BizPad
- Sharp Windows RT Ativ
- Sony VAIO Duo 11
- Sony VAIO Tap 20
- Sony Xperia Tablet Z
- TazTag TazPad
More NFC Devices

Examples of additional types of NFC devices, available now and on the way…

- Landis+Gyr + NXP
  - Smart Meters for utility companies

- NFC “Digital Gum Goods” by Razorfish

- Nintendo Wii U controllers

- Payment wristbands

- Moneto: NFC microSD for the iPhone & Android

- Glidepoint NFC trackpad

- Sony RC-S380 reader/writer

- RhythmTrak Heart Monitor

- ViVOtech NFC payment terminals

- Revosys V5 interactive taxi terminal/tablet
NFC Laptops

HP Envy x2

Lenovo ThinkPad Helix

Sony Vaio Fit
2. A Robust Set of Specifications
20 NFC Forum specifications approved spanning core functions:
- Data exchange formats
- Tag types
- Record type definition
- Device interface controller
- Protocols
- Reference applications
3. A Way to Ensure Compliance
NFC Forum Compliance Program

Certification Program

Certified Device

Compliance Program

Plugfests

Interoperability Program
Enhancing the Certification Program

- Adding new testing capability and optimizing processes to:
  - Bring testing for new functionality to market faster
  - Continually improve existing testing methodology
- Streamlining certification requirements with other industry organizations such as EMVCo
- Expanding the number and frequency of Plugfests around the world
4. Consensus on Market Growth
Analysts Agree

- TechNavio
  - Global NFC chip market to grow at a CAGR of 135.63 percent over the period 2011-2015

- ABI Research
  - 102 million NFC handsets shipped in 2012; **285M will ship in 2013; 500M in 2014**
  - NFC-enabled smartphone shipments are anticipated to increase by **481% from 2012 to 2015**

- Deloitte
  - In 2013 there may be as many as **300 million** NFC smartphones, tablets and eReaders sold

- Frost & Sullivan
  - By 2015, NFC will be the most-used solution for mobile payment, enabling worldwide transactions totaling about **$151.7 billion**

- Gartner Research
  - **50% of smartphones** will have NFC capability by 2015

- Juniper Research
  - By 2017, **1 in 4 US consumers** will use NFC-enabled devices to pay for goods in-store
5. A Place to Share Ideas
All of these things are essential.
All of these things are essential.

But they are only the prerequisites for NFC adoption.
What else is needed?
What else is needed?

Worldwide demand.
How do we build worldwide demand for NFC?
NFC Solutions

MOBILE PAYMENTS

TRANSIT FARE/ACCESS

LOCATION-BASED SERVICES

LOYALTY/COUPONING

GAMING

INFORMATION EXCHANGE

DEVICE PAIRING

ACCESS CONTROL

Credit Card

Rewards Card

Bus

Location-based application

Cell phone

Rechargeable card

Closed lock icon

Printer
1. Fulfill an unmet need that only NFC can satisfy.
Example: Active Packaging

Wine Tracking with NFC Tags and N-Mark

- Tracks bottles from production to end user
- Authenticates contents
- Ensures quality via real-time temperature monitoring
Four Paths to a World-Winning NFC Solution

1. Fulfill an unmet need that only NFC can satisfy.

2. Perform a complex action more simply with NFC.
Example: Device Pairing

Bluetooth Headphones and Speakers

- Faster than Bluetooth alone
- Simple
- Secure
- Fast data transfer
Four Paths to a World-Winning NFC Solution

1. Fulfill an unmet need that only NFC can satisfy.

2. Perform a complex action more simply with NFC.

3. Provide an answer to a major business problem.
Example: Airline Boarding

• Boarding time has doubled since 1970
• Avg. boarding time is now 40 mins. for a 140-passenger domestic flight
• With NFC a 450-passenger plane can board in 15 mins.

Source: Japan Airlines
Four Paths to a World-Winning NFC Solution

1. Fulfill an unmet need that only NFC can satisfy.
2. Perform a complex action more simply with NFC.
3. Provide an answer to a major business problem.
4. Apply NFC to verticals with high potential for early commercialization.
Special Interest Groups (SIGs)
Overview of SIGs

- 2-way communication makes this work
  - Encourage broad adoption by working with key vertical markets, use cases and technologies that are targets for NFC deployment
  - Gather business requirements to drive new and modified technical work
  - Establishing liaisons to further collaboration efforts
  - Jointly work on education and guidelines for each industry (e.g., white papers, demos, best practices, how-to guides, etc.)

“First Generation NFC”
Consumer Electronics SIG Working Group

- Chair: Ken Smith, Hewlett Packard
- 154 contributors from 65 member companies
- Liaison partner engagement in collaboration across NFC Forum Committees
  - Sharing technical documentation with WiFi Alliance
- Informational materials and best practices underway
- Education and outreach at industry events
- Targets: device makers, software vendors, integrators, health care institutions
- Chair: Stephen Tiedemann, Sony
- 152 contributors from 66 member organizations
- Liaison partner engagement
  - Joint Plugfest events with Continua Health Alliance
- Informational materials and best practices underway
- Education and outreach at industry events
Payment SIG Working Group

- Targets: financial institutions, merchants and terminal manufacturers
- Group Chair: Lars Wemme, Infineon
- Vice Chair: Libby Roch, VeriFone
- 170 contributors from 75 member organizations
- Liaison partner engagement
  - Cross-recognition of relevant specifications with EMVCo
  - Streamlining certification with EMVCo, PTCRB, and GCF
  - Develop educational programs with GSMA, the Smart Card Alliance, Global Platform and the Mobey Forum
  - NFC use case education crossing payments, retail, and transport with the Smart Card Alliance
- Informational materials and best practices underway
  - Addressing roadblocks and providing recommendations
Targets: retailers, packaged goods companies and advertisers

Group Chair: Vik Pavate, Kovio

Vice Chair: Corey Wilson, Smartrac

149 contributors from 69 member companies

Liaison partner engagement

- Work effort to define technical requirements for packaging and digital couponing with GS1
- NFC use case education crossing payments, retail, and transport with the Smart Card Alliance
- Discussions underway with ARTS/NRF, AIPIA, Digital Screen Association and others

Informational materials and best practices underway

- Overviews of benefits of NFC technology for the industry
Transport SIG Working Group

- Targets: airlines, public transport agencies, etc.
- Group Chair: Martin Gruber, NXP
- Vice Chair: Joerg Schmidt, Infineon
- 168 contributors from 75 member organizations
- Liaison partner engagement
  - Task Force formed with IATA to facilitate NFC implementations
  - NFC use case education crossing payments, retail, and transport with the Smart Card Alliance
- Informational materials and best practices underway
  - Overview of use cases and benefits of NFC technology across stakeholders
  - Updating NFC in Public Transport White Paper
Liaison Partners
Thank you!

and

Join us!