The Four Essential Keys to a Winning NFC Solution

Koichi Tagawa
Chairman, NFC Forum
Sony
WIMA Monaco
April 10, 2013
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
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 Infinity
- BlackBerry Bold 9790

- BlackBerry Bold 9900/9930
- BlackBerry Curve 9350/60/70
- BlackBerry Curve 9380
- BlackBerry Z10
- Cmii 1/3
- Casio DT-X8
- Casio Ruggedized IT-800 RGC 35

- Fujitsu Arrows μ F-07D
- Google Galaxy Nexus
- Google Nexus 4
- Google Nexus S
- HTC Desire C
- HTC Droid DNA/HTC J Butterfly
- HTC Droid Incredible 4G LTE
More NFC Phones Available Now

- HTC Evo 4GLTE
- 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
- LG Optimus LTE Tag
- LG Optimus Net
- LG Optimus Vu
- LG T530 Ego
More NFC Phones Available Now

LG Viper

Megaфон Mint

Mobiwire Cosyphone

Motorola Droid Razr/HD

Motorola Droid Razr M

Motorola Droid 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

Nokia Lumia 820

Nokia Lumia 920

Nokia N9

Nokia Oro

Copyright © 2013 NFC Forum. All rights reserved
More NFC Phones Available Now

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 II
Samsung GALAXY S III
Samsung GALAXY S III mini
Samsung Galaxy Stratosphere II
Samsung Galaxy Victory 4G LTE
More NFC Phones Available Now

- Samsung S5230/S5260
- Samsung SHW-A170K
- Samsung Wave 578
- Samsung Wave M/Y
- Sharp Aquos Phone Serie
- Sonim XP1301 Core NFC
- Sonim XP and NFC
- Sony Xperia acro S
- Sony Xperia ion
- Sony Xperia P
- Sony Xperia S
- Sony Xperia Sola
- Sony Xperia T
- Sony Xperia V
- Sony Xperia VL
- Sony Xperia Z
- Toughshield R-500
- Turkcell MaxiPRO5
- Turkcell T11 Maxiphone/ZTE Racer II
- Vertu Ti
- Xolo X900

Copyright © 2013 NFC Forum. All rights reserved
More NFC Phones Available Now

Yulong Coolpad 8870 NFC
ZTE Blade II
ZTE Grand X IN
ZTE Kis
ZTE Orbit
ZTE Turkcell MaxiPLUS5

And more being released…
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.
- TazPad from TazTag aimed at retail was launched in France.
- Google Nexus 7 was announced in June 2012, and is now available in the US, UK, France, Germany, Spain, Canada, and Australia.
- 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.
NFC Tablets

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 Note/Note II
- Samsung Windows RT Ativ
- Sharp RW-T107/T110

- 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
- Moneto: NFC microSD for the iPhone & Android
- NXP
- Nintendo Wii U controllers
- Revosys V5 interactive taxi terminal/tablet
- ViVOtech NFC payment terminals
- Sony RC-S380 reader/writer
- RhythmTrak Heart Monitor
- Glidepoint NFC trackpad
- NFC “Digital Gum Goods” by Razorfish
- Payment wristbands

Copyright © 2013 NFC Forum. All rights reserved
2. A Robust Set of Specifications
### Specification Development

- 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
Plugfests
Interoperability Program
Compliance 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
# Members – April 2013

## Sponsor Members

- Broadcom
- Google
- Intel
- MasterCard Worldwide
- NEC
- Nokia
- NXP
- Qualcomm
- Renesas
- Samsung Electronics
- Sony
- ST
- Visa

## Principal Members

- American Express
- AT&T
- Barclaycard
- CSR
- Canon
- DNP Dei Nippon Printing
- Discover
- HP
- Huawei
- Infineon
- Inside Secure
- Kovio
- LG
- Marvell
- NTT Docomo
- PayPal
- Rim
- Rogers
- Texas Instruments
- Yahoo!

Copyright © 2013 NFC Forum. All rights reserved
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?

Demand from consumers and businesses.
How do we build consumer and business demand for NFC?
NFC Solutions

MOBILE PAYMENTS

TRANSIT FARE/ACCESS

LOCATION-BASED SERVICES

LOYALTY/COUPONING

GAMING

INFORMATION EXCHANGE

DEVICE PAIRING

ACCESS CONTROL

Copyright © 2013 NFC Forum. All rights reserved
1. Fulfill an unmet need that only NFC can satisfy.
Wine Tracking with NFC Tags

- Tracks bottles from production to end user
- Authenticates contents
- Ensures quality via real-time temperature monitoring
The 4 Essential Keys to a 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
The 4 Essential Keys to a 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
The 4 Essential Keys to a 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)
Potential to establish additional working groups as partners identify high market importance and opportunity
Foster adoption of NFC technology and support interoperability across stakeholders in the consumer electronics industry

**Working Group Participants**
- Group Chair: Ken Smith, Hewlett Packard
- 154 contributors from 65 Member companies

**Liaison partner engagement in collaboration across NFC Forum Committees**
- Sharing of technical documentation with WiFi Alliance

**Informational materials and best practices underway**
- Overview on use cases and benefits of NFC technology across stakeholders

**Education and outreach at industry events**
Foster adoption of NFC technology across stakeholders in the health care industry and health care solution providers

Working Group Participants
- Group Chair: Stephen Tiedemann, Sony
- 152 contributors from 66 Member organizations

Liaison partner engagement in collaboration across NFC Forum Committees
- Joint Plugfest events with Continua Health Alliance

Informational materials and best practices underway
- Overview on use cases and benefits of NFC technology across stakeholders

Education and outreach at industry events
Foster adoption of NFC technology by working with stakeholders in the payment industry, including financial institutions, merchants, and terminal manufacturers.

Working Group Participants
- Group Chair: Lars Wemme, Infineon
- Vice Chair: Libby Roch, VeriFone
- 170 contributors from 75 Member organizations

Liaison partner engagement in collaboration across NFC Forum Committees
- Progressing work to enable cross-recognition of relevant specifications with EMVCo
- Work underway with EMVCo, PTCRB, and GCF to streamline certification for interoperability
- Plans to 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
- Overview on use and benefits of NFC technology across stakeholders
- Addressing roadblocks and providing recommendations on how to address
Foster adoption of NFC technology with retailers, packaged goods companies and advertisers

Working Group Participants
- Group Chair: Vik Pavate
- Vice Chair: Corey Wilson, Smartrac
- 149 contributors from 69 Member companies

Liaison partner engagement in collaboration across NFC Forum Committees
- 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
Foster adoption of NFC technology across public and air transport schemes and applications

Working Group Participants
- Group Chair: Martin Gruber, NXP
- Vice Chair: Joerg Schmidt, Infineon
- 168 contributors from 75 Member organizations

Liaison partner engagement in collaboration across NFC Forum Committees
- 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
- NFC in Public Transport White Paper in process
Thank you!

and

Join us!