NFC Forum Now: Driving Vertical Market Implementation Through SIG Activities

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APSCA
NFC & Smart WORLD
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For years we looked forward to the commercial availability of NFC devices ...
... and then ...
Available in the market…

- Acer Cloud S500
- Acer Liquid Glow
- Acer E320 Liquid Express
- Alcatel One Touch 922
- BlackBerry Bold 9790
- BlackBerry Bold 9900/9930
- BlackBerry Curve 9350/60/70
- BlackBerry Curve 9380
- Cmii 1/3
- Casio DT-X8
- Casio Ruggedized IT-800 RGC 35
- Fujitsu Arrows μ F-07D
- Google Galaxy Nexus
- Google Nexus S
- HTC Desire C
- HTC Droid DNA/HTC J Butterfly
- HTC Droid Incredible 4GLTE
- HTC Evo 4GLTE
- HTC Incredible
- HTC One X/XL
- HTC Ruby / Amaze
More NFC Phones Available Now

- HTC Windows Phone 8x
- Huawei Ascend Y201
- Huawei Sonic/Turkcell T20
- Lenovo K800
- LG Optimus 3D Max/3D Cube
- LG Optimus 4X HD
- LG Optimus Elite
- LG Optimus L5/L7
- LG Optimus LTE/2
- LG Optimus LTE Tag
- LG Optimus Net
- LG Optimus Vu
- LG T530/Ego
- LG Viper
- Mobiwire Cosyphone
- Motorola Droid Razr
- Motorola MC75A HF
- Motorola Photon Q 4G LTE
- Motorola Razr i
- Nokia 603
- Nokia 700
More NFC Phones Available Now
More NFC Phones Available Now

- Samsung GALAXY S II
- Samsung GALAXY S III
- Samsung GALAXY S III mini
- Samsung S5230/S5260
- Samsung SHW-A170K
- Samsung Wave 578
- Samsung Wave M / Y
- Sharp Aquos Phone Series
- Sonim XP1301 Core NFC
- Sonim XP and NFC
- Sony Xperia acro S
- Sony Xperia ion
- Sony Xperia J
- Sony Xperia P
- Sony Xperia S
- Sony Xperia Sola
- Sony Xperia T
- Sony Xperia V
- Sony Xperia VL
- Toughshield R-500
- Turkcell MaxiPRO5
More NFC Phones Available Now

- Turkcell T11
- Xolo X900
- ZTE Blade II
- ZTE Kis
- 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:

- **TazPad from TazTag** aimed at retail was launched in France.
- **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.
- **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 Vivo Tab/Tab RT
- DLI 9000
- Google Nexus 7
- Google Nexus 10
- HP Elitebook Revolve
- Kuoziro FT701W
- Lenovo ThinkPad Tablet 2
- LG Optimus Vu
- Panasonic BizPad
More NFC Tablets

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

- 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**
  - Smart Meters for utility companies

- **NFC “Digital Gum Goods” by Razorfish**

- **Sony RC-S380 reader/writer**

- **Glidepoint NFC trackpad**

- **RhythmTrak Heart Monitor**

- **ViVOtech NFC payment terminals**

- **Moneto: NFC microSD for the iPhone & Android**

- **Payment wristbands**

- **Revosys V5 interactive taxi terminal/tablet**

- **Nintendo Wii U controllers**
Momentum is Building

- **Berg Insight**
  - 100 million cell phones using NFC technology predicted to be sold in 2012

- **ABI Research**
  - 102 million NFC handsets to ship in 2012; **285 million will ship in 2013**
  - 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
What Device Availability Means

- Greater visibility
- Growing familiarity
- New business opportunities
- Growing consumer demand
What Is Needed Now?

- To make sure NFC is here to stay and grow
  - More applications
  - More services
  - More innovation
Mobile payment is not the only “killer app”
Consumer Non-Payment Opportunities

- Advertising
- Consumer Electronics
- Gaming
- Healthcare and wellness
- Hospitality
- Retail (POS tag reading)
- Social media

...and many more
Consumer Electronics

- **Pairing NFC Devices**
  - Home computer components
  - In-car devices
  - Home entertainment systems
  - Headsets and handsets
  - Cameras and printers / digital frames

- **Connectivity**
  - Quick and secure Bluetooth and Wi-Fi setup
  - Fast data transfer
  - Audio handover

- **Information Gathering**
  - Read product history from smart tag to NFC phone
NFC and Wi-Fi

- NFC can simplify the task of adding a new device to a Wi-Fi network or to create a Wi-Fi connection between two devices.
- Existing (proprietary) implementations show the attractiveness of the Wi-Fi + NFC use cases (e.g. S-Beam on the Samsung Galaxy SIII, numerous apps in ‘Android Play’).
- Further standardization and certification is required to reach interoperability.
NFC and Wi-Fi Example
Business Non-Payment Opportunities

- Access control
- Distribution
- Healthcare
- Mobile workers
- Security
- Utility metering
- Workforce management

Photo source: Assa Abloy
NFC and Active Packaging

Commercial Uses
- Package tracking
- Content identification
- Temperature exposure log
- Authentication
Example: Opus One Wines

- NFC tags used to authenticate high-end product
- Complementing location-based services, tracks bottles from production to end user
- Protects against counterfeit and fraud
A tag is placed on each bottle label holding a unique identifier, vintage, bottle size, and validation code.

Bottle is scanned before placing in a wooden case, which is also tagged.

The case tags are matched against palette tags.

The palette tag is matched to the invoice upon delivery.
How the NFC Forum is Helping

- Specification development
- Compliance program
- Special Interest Groups (SIGs)
20 NFC Forum specifications approved spanning core functions:
- Data exchange formats
- Tag types
- Record type definition
- Device interface controller
- Protocols
- Reference applications
Compliance Program Components

- Certification Program
- Certified Device
- Plugfests
- Interoperability Program
- Compliance Program
Enhancing Compliance

The NFC Forum is:

- Preparing to launch Wave 2 of the Certification Program
- Exploring joint certification efforts with other organizations (EMVCo)
- Expanding the number and frequency of Plugfests around the world
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.)
Foster adoption of NFC technology across stakeholders in the consumer electronics industry

Working Group Participants
- Group Chair: Ken Smith, Hewlett Packard
- 116 contributors from 55 Member companies

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

Informational materials and best practices underway
- Overviews on use 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
- 108 contributors from 58 Member organizations

**Liaison partner engagement in collaboration across NFC Forum Committees**
- Hold joint Plugfests with health care vendors with Continua Health Alliance

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

**Education and outreach at industry events**
Foster broad 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
- 121 contributors from 66 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, GlobalPlatform 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
Foster adoption of NFC technology with retailers, packaged goods companies and advertisers

**Working Group Participants**
- Group Chair: Open
- Vice Chair: Corey Wilson, Smartrac
- 110 contributors from 60 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 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

- 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
  - 119 contributors from 63 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
  - Overviews of use and benefits of NFC technology across stakeholders
  - NFC in Public Transport White Paper in process
Membership and Liaison Partners
### Members – February, 2013

#### ASSOCIATE MEMBERS

- AND
- Acer Incorporated
- Agilest Technologies
- amn
- Aplius
- ASSA ABLOY
- AT4 Wireless
- Bell Mobility
- BKM
- CGC
- COMPRION
- CUBIC
- DAIMLER
- dentsu
- dialog
- ERICSSON
- fimc
- gemalto
- HITACHI
- Integrated Device Technology, Inc. (IDT)
- Interlace Technology Corporation
- ixia
- JCB
- KEGLABS
- KDDI
- NTT Data
- National Instruments
- Nordic Semiconductor
- Oberthur Technologies
- Panasonic
- Pixel
- POLAR
- RFI
- Rohm
- Samsung
- SanDisk
- Sasken
- Sharp
- SMARTRAC
- t-gig
- TMC
- Toppan
- Toshiba
- TTA
- UNISYS
- VeriFone
- WODA
- ZTE

#### IMPLEMENTER MEMBERS

- 3Alogic
- ACS
- ALPS
- athena Smartcard
- BB McCard
- BURRY TECHNOLOGIES
- CASSIS
- Constatus
- Consult
- Creative
- CROWN
- CRYPTO
- CROSSCR
- Crowd Control
- CYNOS
- EnStream
- FRONTLINE
- Fujitsu
- Hottech
- htc
- IDENTIVE
- JCSQUARE
- Johnson Controls, Inc.
- KODCERA
- KURZ
- MAGTEK
- imeon
- NEXPERTS
- Plastic Card
- Proxama
- Pulse
- Questa Computer Inc.
- RapidNFC
- R booth Company, LTD
- Sabrent
- Schneiders
- SecurityKey Technologies, Inc.
- Siemens AG
- Skidata
- TCL
- U.S.
- UKC
- USA Technologies
- IdentityTag
- WNC

#### NONPROFIT MEMBERS

- arts
- COOL
- cito
- FH
- Forum Mediterraneo
- Forum Mediterraneo Mobile
- fs mobile
- GBS1
- GBS2
- GBS3
- Guatemala
- JICSAP
- JIS
- Mobiltarca
- NII
- NSO
- RuPay
- Spain
- V2
- VTT
- WIT
- XAC
- XERO
Liaison Partners
Thank you!

and

Join us!