NFC Forum: Furthering the Adoption and Use of NFC

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Chairman, NFC Forum

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NFC
NFC - How does it work?
3 communication modes

Connect the world of apps with the physical world:

- **Tag/Card Reader/Writer** (Terminal)
  Multi-standard (ISO/IEC14443, JIS X 6319-4/Felica, ISO/IEC15693)

Connect devices through physical proximity:

- **P2P Communication** (Device to Device)
  NFCIP-1, NFCIP-2 (ISO/IEC18092, ISO/IEC21481)

Interactive wallet:

- **Card Emulation** (Secure Element)
  EMVCo/ISO/IEC14443, JIS X 6319-4/Felica
NFC Forum
Mission and Goals

- The mission of the NFC Forum is to advance the use of NFC technology by:
  - Developing standards-based specifications that ensure interoperability among devices and services
  - Encouraging the development of products using NFC Forum specifications
  - Educating the market globally about NFC technology
  - Ensuring that products claiming NFC capabilities comply with NFC Forum specifications
  - Promoting the NFC Forum N-Mark
We are well into the Journey

Define and Stabilize Technology

Support Interoperability
Enhance Technology
Support Ecosystem

Refine Technology
Expand Ecosystem
Promote End User Usage

2008  2009  2010  2011  2012/13
Members – May 2012

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Members – May 2012

ASSOCIATE MEMBERS

IMPLEMENTER MEMBERS

NONPROFIT MEMBERS
NFC Forum Activities
Current Focus of Work

- Establish the N-Mark as the global symbol of NFC functionality
- Continue to develop and enhance specifications to meet market demand
- Expand and simplify the Certification Program to speed products to market
- Focus on educating the ecosystem about the potential of NFC through liaisons, partnerships, and industry outreach
- Establish confidence and credibility in the technology, for everyone in the value chain
- Clarify the basis upon which innovation, partnerships, and the NFC Ecosystem will flourish
NFC Forum N- Mark

- Consumer-facing mark
- New - available for devices and software, via free, click-through license agreement
  - Continues to be offered for tags and media
- Universal symbol for NFC technology
- Shows where to touch another N-Mark to use NFC technology
- Use on smart posters, devices, software, POPs, signage, labels, cards, and much more
- Represents ease, convenience, greater device functionality, and fast action
- Download at: www.nfc-forum.org/resources/N-Mark/
## Current Signed Liaisons

<table>
<thead>
<tr>
<th>Liaison</th>
<th>Category</th>
</tr>
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<tbody>
<tr>
<td>GSMA</td>
<td>Mobile</td>
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<tr>
<td>EMVCo</td>
<td>Payment</td>
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<tr>
<td>Asia Pacific Smart Card Alliance (APSCA)</td>
<td>Smart Cards</td>
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<tr>
<td>National Retail Federation (ARTS)</td>
<td>Retail</td>
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<td>Mobey Forum</td>
<td>Mobile</td>
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<tr>
<td>American Public Transport Association (APTA)</td>
<td>Transit</td>
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<tr>
<td>Open Mobile Alliance (OMA)</td>
<td>Mobile</td>
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<tr>
<td>Smart Card Alliance</td>
<td>Smart cards</td>
</tr>
<tr>
<td>ETSI (expired but under discussion to renew)</td>
<td>Telecom</td>
</tr>
<tr>
<td>Continua Health Alliance</td>
<td>Health care, advertising</td>
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<tr>
<td>Global Platform</td>
<td>Secure chip, standards</td>
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NFC Committee Philosophy and Recent Works
Our Mission

1. Ensure core specifications for vendor product development
2. Continue to solicit business requirements from field for relevant specifications
3. Explain how specifications work

Our Approach

1. Issued 17 specifications (NCI - candidate release)
2. Current market knowledge obtained from members, liaison partners, and vertical roundtables
3. Application Documentation (industry targeted technical specification documents)
4. Educational Materials (Ecosystem Committee webcasts, sales, and marketing collateral)
NFC Forum: Architecture and Specifications

NFC Forum Device Requirements

NFC Digital Protocol

NFC Activity

Implementation Test Plan

NFC Forum Certification Policy

Implementation Conformance Statement (ICS)

Implementation eXtra Information for Testing (IXIT)

Test Case Mapping Table

Test Cases

Test Cases

Test Cases

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Test Cases
Our Mission

1. Develop certification program to test products and services
2. Support interoperability programs

Our Approach

1. Announced Wave 1 certification (late 2010)
2. Wave 2 expected late 2012
3. First products certified
4. Growing Plugfest Events (scope, size, and specialty)
5. Expand Liaison Partners focused on verticals
NFC Forum Certification is Good for Business

- Establishes confidence and credibility in the technology, for everyone in the value chain.
- Clarifies the basis upon which innovation, partnerships, and the NFC Ecosystem will flourish.
- Brings together a set of addressable markets whose combined size is greater than the sum of its parts.
Certification Program
NFC Forum Certification Mark

- Industry-facing mark
- Granted to products that successfully complete NFC Forum certification
- Gold standard of compliance
- Symbol of global credibility
- Promotes compliance and interoperability

For more information:
www.nfc-forum.org/certification
First Certified Product

- Sony RC-S380 USB reader/writer
- Product communicates with any devices that conforms to the NFC Forum specifications
- Also communicates with devices implementing the contactless IC card technologies ISO/IEC14443 Type A/Type B and FeliCa
Plugfest Events

- Multi-day, members-only events
- Promotes interoperability – members can verify the level of interaction of their implementation to other NFC Forum implementations
- Enables confidential device-to-device testing
- Includes access to wide range of implementations, tags, smart posters, test tools
- Complements Certification Program conformance testing
Our Educational Approach
Ecosystem Committee

Our Mission

1. Educate ecosystem about NFC - uses, players, potential

Our Approach

1. White papers on specific use cases
2. Webcasts on “deep dive” topics
3. Work with marketing liaison partners to educate specific verticals
4. Trade Show visibility
5. Speaking at Industry Events
6. Special events:
   — “Solutions Showcase”
   — Developer “spotlights”
Ecosystem Committee
Work Streams

- Educates market players about the use of NFC and promotes the NFC Forum's work

- Provides speakers at NFC industry events

- NFC Forum Brand Guide
  - Recently released (Early April 2012)
  - Promotes the NFC Forum Brand
  - Defines and establishes guidelines for using the NFC Forum Marks
  - Available at: www.nfc-forum.org/resources/N-Mark/brandguide.pdf
Tokyo Solutions Showcase

- Wednesday, 27 June 2012
- 18:00 – 20:00 JST
- Expected attendees 200
- Cocktail Reception
- Attendees will see the latest NFC innovations in action
- Demonstrations of a wide range of use cases from NFC Forum members, non-members, and invited guests in a relaxed and informal setting
2012 and Beyond

Vertical Special Interest Groups (SIGs)
NFC Today

- Core specifications are in place
- Products being certified
- N-Mark launched and supported by many global companies
- Multiple use cases on multiple devices being deployed

What’s next: optimizing NFC for all potential use cases
NFC is a Horizontal Technology

- Reaches across multiple devices and multiple use cases
- Consumers may not realize NFC is the technology behind every use case
- “Killer apps” like phones for payment and transit will only be part of the eventual deployment, e.g.:
  - Tag reading
  - Consumer electronics pairing
  - Digital media transfer

Consumer demand for NFC is essential for success. NFC enables multiple use cases. To capture wider consumer demand, broader use cases must be facilitated.
Our Solution

- Build a platform for Special Interest Groups (SIGs) to get involved with NFC

Rationale:
- Give industries the resources to figure out how NFC can work in their vertical
- Provide common approach to achieve industry-wide interoperability, usage of marks, consumer education, etc.
- Facilitate discussion and development
Vertical SIGs

- 2-way communication makes this work
  - Obtain business requirements for possible specifications and certification implications
  - Jointly work on education and guidelines for each industry (e.g., white papers, demos, best practices, how-to guides, etc.)
  - Look at NFC from the consumer perspective and make sure the value proposition is there

CE    Airlines    Retail    Health Care    Payment    Transit    New

“First Generation NFC”
In Summary

- NFC is a broad and robust technology
- Our work is focused on ensuring a smooth and timely deployment for solutions providers
  - Specifications that cover all use cases now and in the future
  - Certification program that ensures compliance without undue complexity
  - Educational programs in conjunction with vertical market players to show and encourage the breadth of possible uses
Thank you!