



ADVANCING NEAR
FIELD COMMUNICATION
TECHNOLOGY

Why NFC is Bigger than Paying With Your Mobile Phone

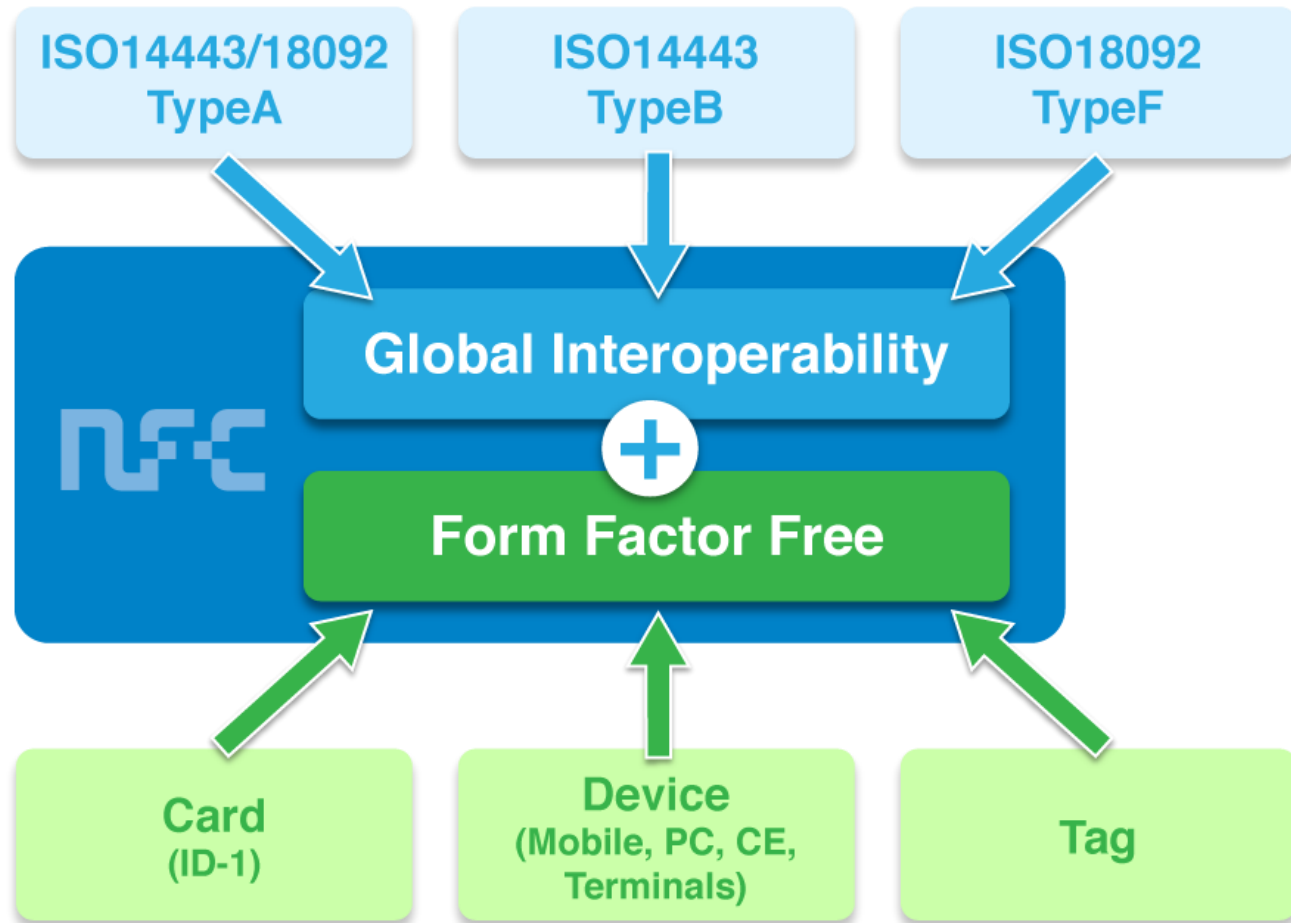
Koichi Tagawa
Sony
Chairman, NFC Forum



4G World NFC Summit
October 26, 2011

NFC

Concept of NFC



NFC Works in Three Modes

Card Emulation

Enables NFC devices to act like contactless cards

Works with existing contactless infrastructure

Examples include NFC-enabled mobile phones used for payment and transit



Reader/ Writer

Enables NFC devices to act as Reader/Writer and interact with NFC tags

Example includes NFC-enabled mobile phones used to read “smart posters”



Peer-to-Peer

Enables NFC devices to communicate with one another

Examples include connecting NFC-enabled laptops and printers or sharing photos between a camera and TV



NFC Is Not Just Mobile

NFC brings value to many other electronics as well



NFC Is More Than Payment

- NFC mobile phones are for more than payments:
 - Ticketing and transport
 - Loyalty and couponing
 - Secure access to buildings and PCs
 - Inventory control with tags and readers
 - Information exchange
 - NFC device to device
 - Security patrols
 - Patient monitoring
 - Smart Posters



Is the Market's Focus Too Narrow?

Could simple tags be a killer app?

- Controlled by the consumer
 - *Am I interested enough to tap?*
- “Tap and Read”
 - Simpler than QR or bar codes
- Easy and inexpensive to deploy
- Unlimited informational and promotional opportunities across every vertical



Example: 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 set-up
 - Fast data transfer
 - Audio handover
- Information Gathering
 - Read product history from smart tag to NFC phone
- Asset Management
 - Use NFC phones to read smart tags per product for inventory control



▪ Target Verticals Benefitting from NFC



- Advertising
- Automotive
- Financial Services
- Health Care
- Retail
- Transportation
- Travel & Entertainment



...and many more

N-Mark



- Consumer-facing mark
- Shows where to touch another N-Mark to use NFC
- No cost to use, free license, available to everyone
- For use on smart posters, cards, labels, devices
- Free license at: www.nfc-forum.org

Marketplace Situation

- Business models are coming together to launch major NFC initiatives
 - MNOs and financial service providers are collaborating
 - Handset manufacturers, governments, financial service providers, universities, and retail companies are joining forces
- NFC product and service announcements accelerating rapidly
- Transport operators are mandating use of NFC
- Stadiums are implementing NFC for ticketing
- SNS check in, and many other services, increasing
- Consumer acceptance and excitement are high with approval ratings up to 85%

New NFC Solutions



Download a FREE Coles & Curtis video recipe right here.



Quality food costs less | coles

NFC Phones Here Now

Available in the market...



Nokia Symbian Belle 600/700/701



Google Nexus S



Samsung S5230



Samsung SHW-A170K



Samsung GALAXY S II



Sagem COSYPHONE



Nokia C7



Pantech Sky Vega Racer



BlackBerry Bold 9900/9930



Motorola MC75A HF



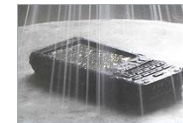
HTC Ruby/Amaze



Sonim XP3300 Force



LG T530/Ego



Casio Ruggedized IT-800RGC 35



Casio DT-X8



Fifth Media Axia A206

ALSO:

- Hedy/Unicom phones
- Shanghai Simcom/ Eastcom phones

NFC Phones on the Way

Coming soon...



Nokia Oro



BlackBerry Curve 9350/60/70



Acer E320 Liquid Express



LG Optimus Net



Sony Ericsson Xperia



Huawei Sonic



Samsung Wave 578



Nokia N5



LG LU6200



Gentag GT-601



Fonelabs X-series



Toshiba Regza



HTC Incredible S

ALSO:

- ZTE phones
- Additional Android "Gingerbread" phones



NFC Phones Rumored

Speculation...



And Introducing -- NFC Tablets

A fast-moving new segment, with several models recently announced and demonstrated:



Samsung Windows Tablet prototype – demonstrated and handed out at Microsoft Build conference, September 13-16



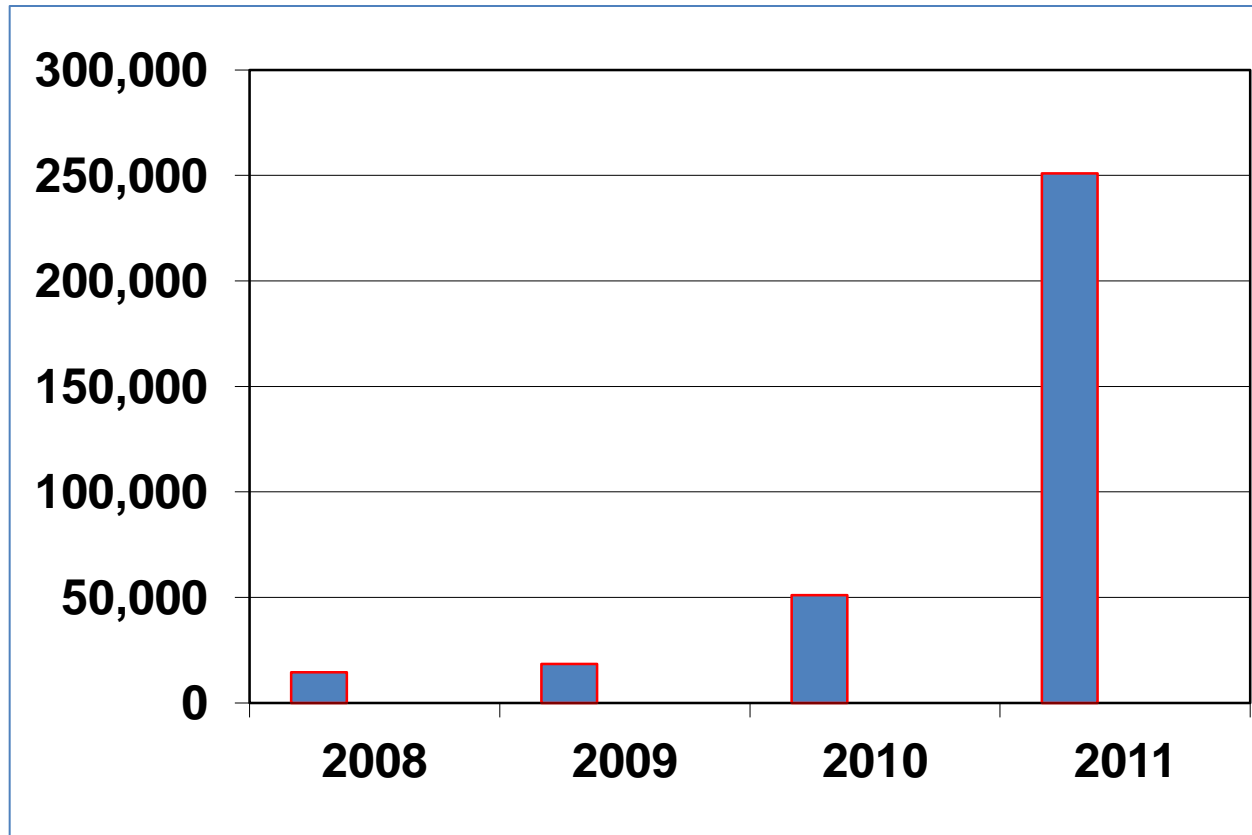
Sharp RW-T107 Android Tablet with NFC functionality built in – launched in Japan



TazPad from TazTag aimed at retail use – launched in France

NFC Forum Google Hits

Increasing Year to Year!



- **Juniper Research:**
 - NFC-based mobile transactions are expected to reach nearly \$50 billion worldwide by 2014
 - 1 in 6 users worldwide will have an NFC-enabled phone by 2014
 - There will be approx \$113 billion made in NFC transactions worldwide in 2016; North America will account for \$47 billion, or 41.6%
- **Frost & Sullivan**
 - By 2015 NFC technology will be the most-used solution for mobile payment
- **Forrester Research**
 - Named NFC to its Top Mobile Trends for 2011
- **Yankee Group**
 - Global mobile transactions predicted to be US\$241 billion in 2011 growing to more than \$1 Trillion by 2015

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're 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 – October 2011

SPONSOR MEMBERS

PRINCIPAL MEMBERS

Members – October 2011

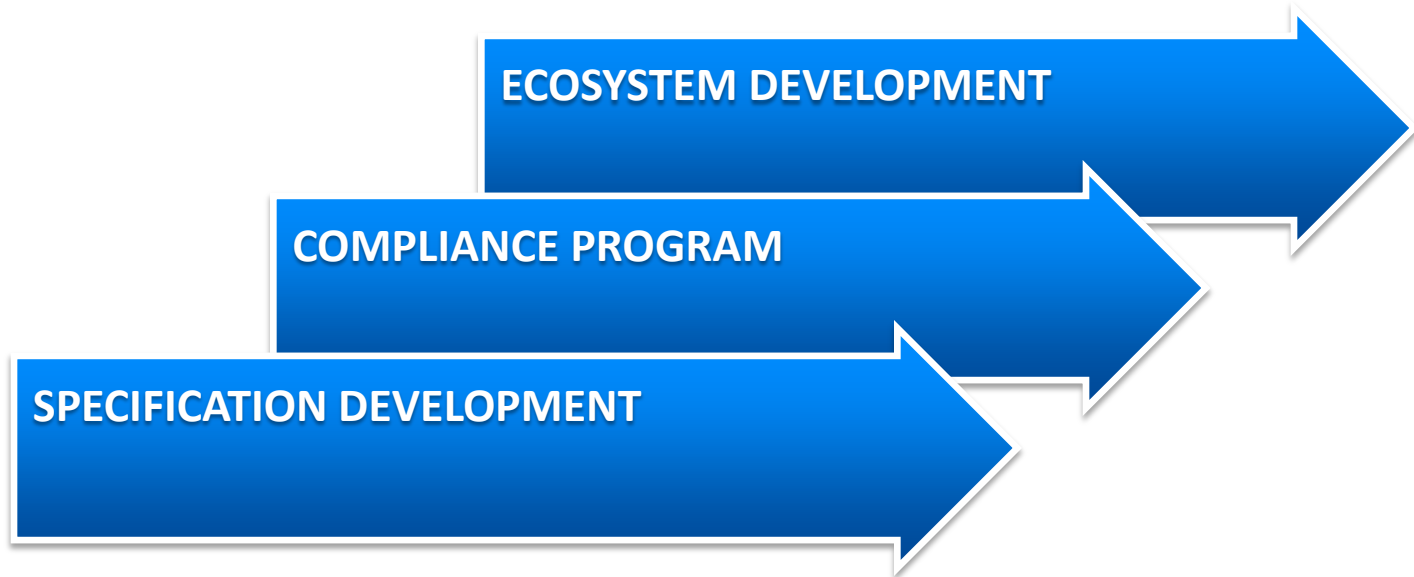
ASSOCIATE MEMBERS

IMPLEMENTER MEMBERS

NONPROFIT MEMBERS

NFC Forum Activities

Steps to Success



Flexible and Stable Specifications

- NFC Forum 16 specifications form a solid base that supports all implementations and approaches
 - Global
 - Universal
 - Device independent
 - Building blocks applicable to many verticals and use cases
- The specifications enable basic interoperability
- Ecosystem players are implementing them today
- Can be downloaded free of charge; thousands of downloads to date

SPECIFICATION DEVELOPMENT

2010

Step #2: Compliance Program

- Delivers on the NFC brand promise of compliance and interoperability
- Provides a process by which devices can be certified to comply with the Forum's open specifications
- Enables testing venues to promote interoperability



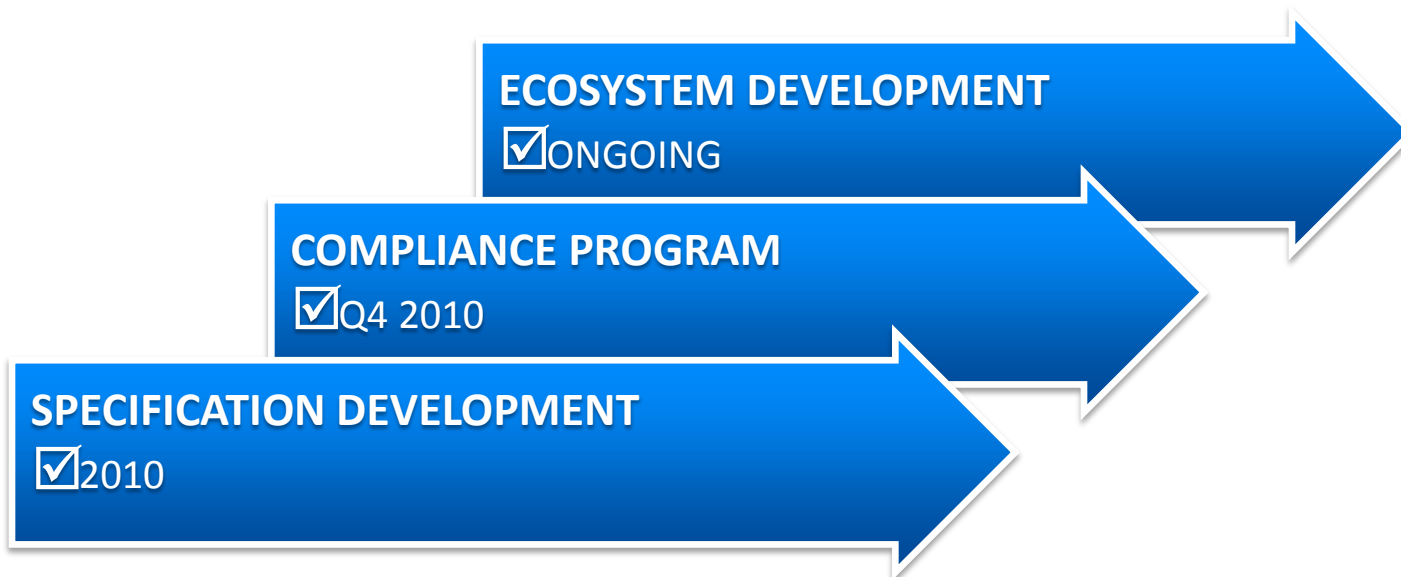
NFC Forum Certification Mark



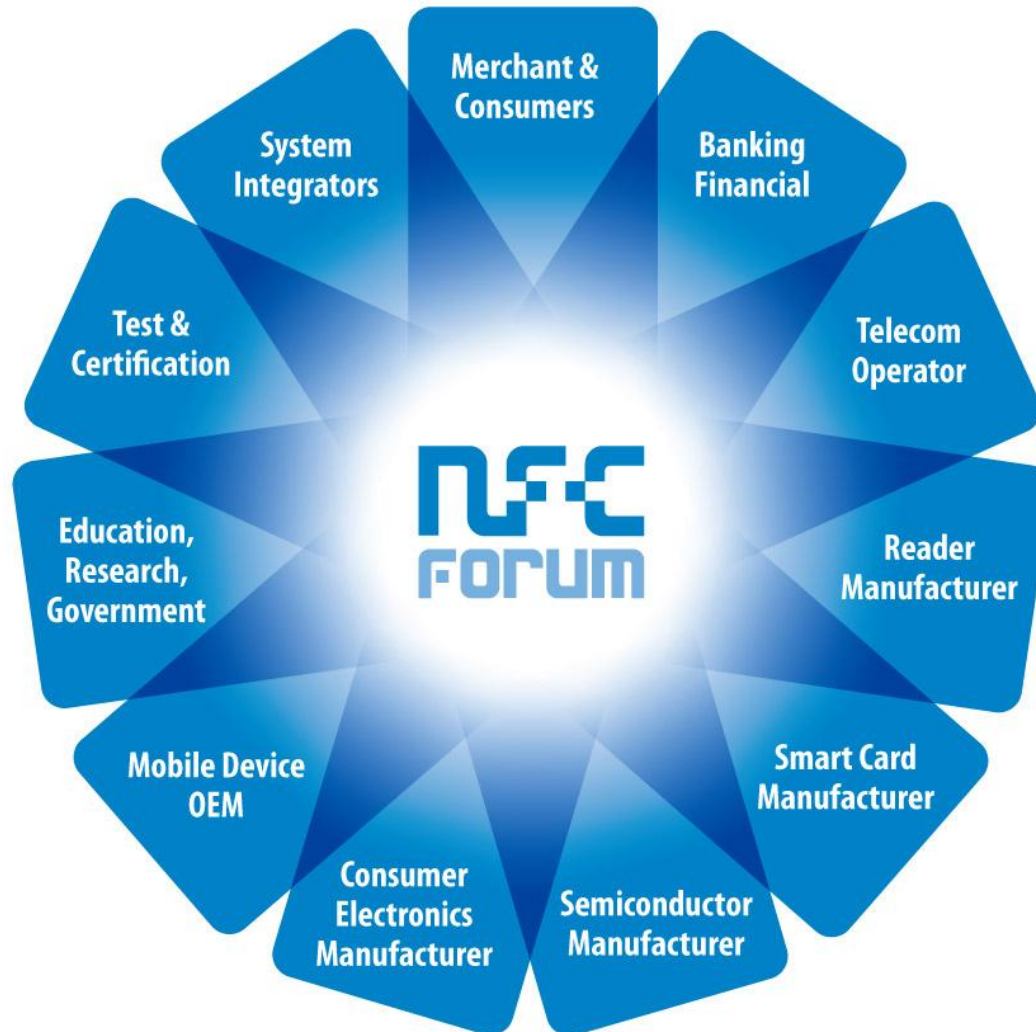
- Industry-facing mark
- Granted to products that complete NFC Forum certification
- For NFC Forum members only
- Available TODAY

Step #3: Build the Ecosystem

- Develop partnerships and liaisons
- Establish co-marketing agreements
- Grow NFC Forum membership



The NFC Ecosystem is Broad and Complex



Outreach is Critical

Liaison	Category
GSMA	Mobile
EMVCo	Payment
Asia Pacific Smart Card Alliance (APSCA)	Smart Cards
National Retail Federation (ARTS)	Retail
Mobey Forum	Mobile
American Public Transport Association (APTA)	Transit
Open Mobile Alliance (OMA)	Mobile
Smart Card Alliance	Smart cards
ETSI	Telecom
Continua Health Alliance	Health care, advertising

Ongoing technical and business development conversations for joint programs

Activities to Expand Opportunities

- Formal opportunities for members to share business developments at face-to-face meetings
- Global Competition in partnership with WIMA to encourage innovation
- Twitter
 - Communicate relevant information about NFC, Forum announcements
- Event partnerships
- Spotlight events for developers
- White papers
 - Smart Posters
 - NFC in Public Transport
 - National Retail Federation Mobile Blueprint (collaboration)
- Webcasts on both technical topics and business use cases

NFC is a “Horizontal” Technology

- Reaches across multiple devices and multiple use cases
- Our work is to ensure smooth and timely deployment
 - Specs that cover all uses 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!