



ADVANCING NEAR
FIELD COMMUNICATION
TECHNOLOGY



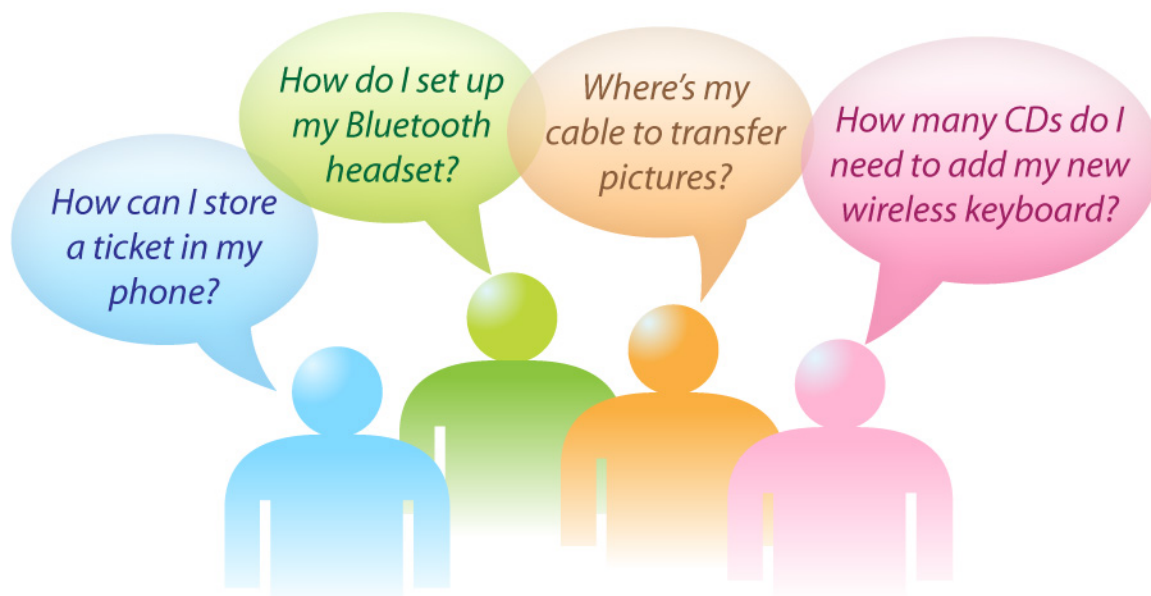
NFC and the NFC Forum

Gerhard Romen
Nokia

Vice Chairman
NFC Forum

The Problems

- Many proximity technologies have evolved in different vertical markets
- Most bring attractive benefits but are often complex for consumers to configure and use
- No consumer-friendly and broadly interoperable platform for consumer applications has been available



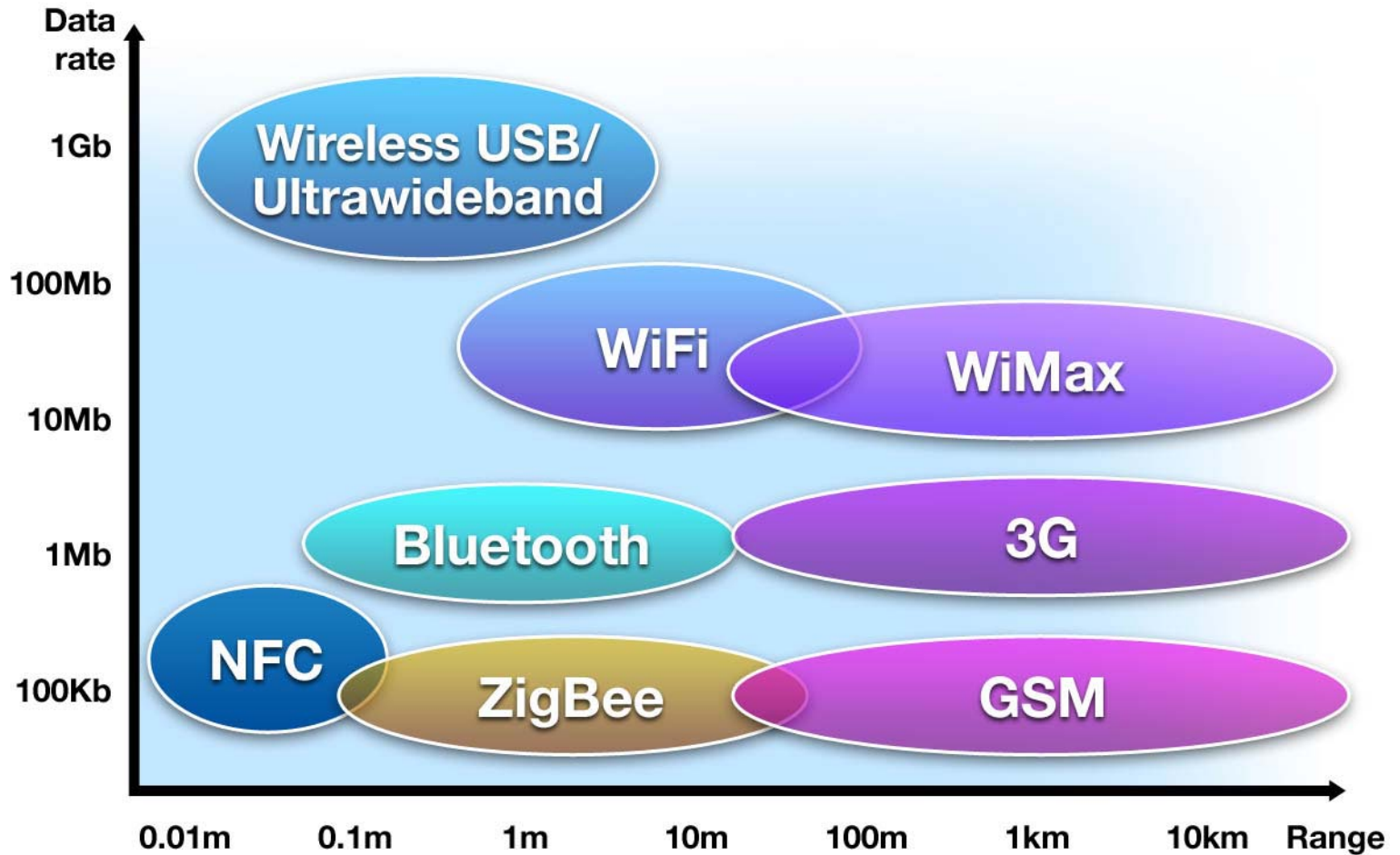
The Solution: NFC Technology



Near Field Communication (NFC)

is a standards-based, short-range (a few centimeters) wireless connectivity technology that enables simple and safe two-way interactions between electronic devices.

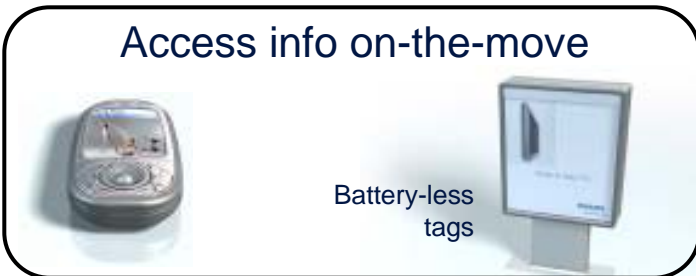
Wireless Market Space



NFC Core Applications



Connect Electronic Devices



Access Digital Content



Make Contactless Transactions

Examples: Transit

- Payment
 - Pay for tickets or taxi rides with NFC phone
 - Pay at transit area retail stores with NFC phone
 - Top up a transit card stored in an NFC phone
- Ticketing
 - Download tickets to NFC phone
- Access
 - Use an NFC phone to enter gates/ board transit vehicles
- Information Gathering
 - Schedules read from smart poster to NFC phone
 - Download maps from smart poster to NFC phone
 - Special offers downloaded from smart poster to NFC phone
 - Order a taxi or bus via tag
 - Transfer address and map phone-to-phone for taxis
- Loyalty
 - Get discounted travel offers for frequent travel



Examples: City Life

- Payment
 - NFC phones to pay at contactless POS
 - Vouchers
 - Pay for parking
- Information Gathering
 - Benefits phone numbers downloaded from smart posters to NFC phone
 - Record parking stall in NFC phone
- Access
 - Secure building access with NFC phone and contactless reader
 - Access to parking; record parking space
- Parking
 - Lot control
- Phone as ID card
 - Physical and logical (log on)
 - Passport



The NFC Forum

Our Vision

The vision of the NFC Forum is to enable users to access content and services in an intuitive way, leading to...

- a world of secure universal commerce and connectivity
- in which consumers can access and pay for physical and digital services
- anywhere, at any time, using any device



History and Membership

- Established in 2004
- Philips, Nokia and Sony were founding members
- Membership grew 20% last year

Now 150+ members from all areas of NFC ecosystem

SPONSOR MEMBERS



NEC



NOKIA

Panasonic®

SONY®

Microsoft®



RENESAS

VISA

Members

PRINCIPAL MEMBERS



NON-PROFIT MEMBERS



ASSOCIATE MEMBERS



ADVANCING NEAR FIELD COMMUNICATION TECHNOLOGY

What We Do

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

We do NOT sell NFC services or products!

Where We Are and Where We're Headed

Major (Public) NFC Projects Globally



- Over 60 NFC projects, both trials and commercial deployments, world-wide have shown strong adoption and positive feedback from users about ease-of-use
- Key focus areas: payment, contactless ticketing and service discovery

Project cities, extract

- Atlanta, USA
- New York City, USA
- Dallas, USA
- Frankfurt, Germany
- Vienna, Austria
- Amsterdam, NL
- Tampere, Finland
- Madrid, Spain
- Manchester, UK
- Strasbourg, France
- Seoul, S. Korea
- Shanghai, Xiamen, Beijing China
- Singapore
- Taipei, Taiwan

Broad Commercial Rollout Anticipated in 2009

“Mobile phone-based contactless payments will facilitate over \$36 billion of worldwide consumer spending by 2011”

- Strategy Analytics, 9/06



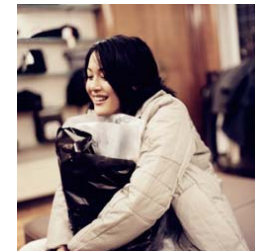
Smart posters



Transit



Ticketing
and
Access



Payment

“One third of all mobile phones will be NFC-equipped in a span of three to five years”

- Frost & Sullivan, 3/07

Building the Ecosystem

- NFC is an ecosystem – new services, new business opportunities, intersection of multiple industries
- NFC deployment will be service driven, not a technology push
- Payment, access and ticketing are the first applications; others will follow
- Establishment of the NFC ecosystem calls for cooperation among the stakeholders, such as mobile operators, banks, event venues, and transport companies

Today's Session

- Proof NFC is real!
- Ecosystems exist
- Lessons have been learned in implementations
- Consumer feedback and take-up is positive

For More Information

Questions?

info@nfc-forum.org

Thank you!