Telecommunications and Information Exchange Between Systems

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Overlapping applications area and use-cases

Contribution for further study on the harmonization
as supplement of SC6N13701 (SC17:HN005R1)

2009-05-20 (update 2009-05-22)

National Committees of Japan SC6 and SC17
for ISO/IEC JTC 1/SC 17 and JTC 1/SC 6

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Preface

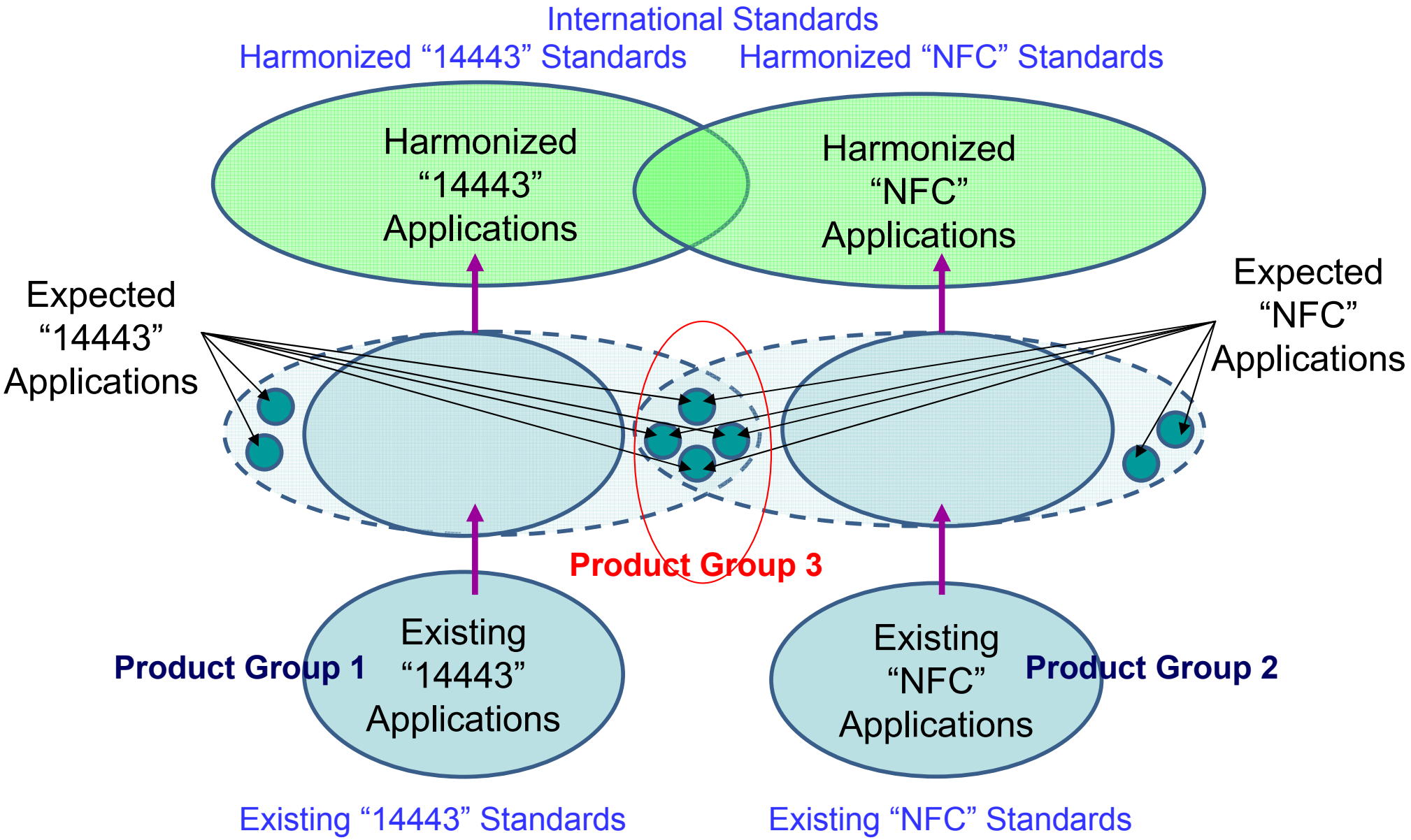
These slides explain about the positioning of the overlapping applications area and use-cases for further study on the harmonization, as a supplement of 6N13701 (SC17:HN005R1).

They were prepared by National Committees of Japan SC6 and SC17 as a contribution to ISO/IEC JTC 1/SC 17 and JTC 1/SC 6.

And in the same time, these slides are response to the ToR reported in the 6N13918 (17N3658), but these slides are intended to trigger the use-case discussion.

Japan National Committees will contribute further precise scenarios so that the SCs can make precise requirements list while 14443/NFC harmonization discussions and also will contribute precise recommendations.

Positioning of overlapping applications area



Product Groups and their major Application Areas

- Product Group 1 (existing 14443 applications)
  - Personal identification application (only 14443 is employed)
  - e.g. eMoney
  - PICC, PCD
- Product Group 2 (existing NFC applications)
  - Peer-to-peer communication protocol (only 18092 is employed)
  - User interface (Protocol redirection, easy WiFi setup, etc.)
  - NFC device
- Product Group 3 (overlapping applications)
  - Provide dual (14443/NFC) technology for each groups
  - Provide platform for group 1 and 2 integrated application
  - Use existing cross 14443/NFC specification
  - World-wide model of personal mobile CE device

Significance of the 14443/NFC Harmonization

excerpt from SC6N13616 (SC17N3475)

- A single specification for the Global Market should be the principle in smartcard, mobile and PC product domains where the expanding Contactless Technology is involved.
- That single specification must include the existing, widely-adopted formats to ensure legacy interoperability.
- Currently, such formats in the contactless arena are compliant to 14443 or NFC.
- To date, several 14443/NFC compatible systems have been proposed. However, true interoperability can hardly be guaranteed due to incompleteness in existing cross 14443/NFC specification(s).

Existing cross 14443/NFC conditions

- If standard specification for the overlapping applications area is absence for many years, proprietary cross 14443/NFC specifications for the Product Group 3 shoot up and the interoperability problems will be increasing.
- This interoperability problem may become one of the obstruction factors of Product Group 3 in the future. As a means of spreading Product Group 3, it is desirable to study the standard for Product Group 3, which necessity we should investigate from various viewpoints. For this investigation, we would like to propose first to dig-up the use-cases for Product Group 3 (see the following pages) and then examine the market needs and expectation of spreading for them.

Use-case (1/9)

- Product Group 1
  - These apparatus work with only ISO/IEC 14443
    - PCD
    - Type A PICC
    - Type B PICC

    {business example}
      - Passport
      - Driving licence
      - eMoney
      - Employee ID card

      and so forth

Use-case (2/9)

- Product Group 2
  - These apparatus work with only ISO/IEC 18092
  - The NFC technology that is used by these apparatus are independent from countries and areas
    - DVD player, YouTube player

      {business example}
      - DVD player read titles and content information from the DVD disc.
      - User will tap the hot spot of the DVD player by NFC handset.
        - » Information transfer from DVD player to NFC handset
      - If the NFC handset has internet access capability, then user can reach to further related information by web.

Use-case (3/9)

- Product Group 2
  - These apparatus work with only ISO/IEC 18092
  - The NFC technology that is used by these apparatus are independent from countries and areas
    - Digital still camera, Digital movie camera

    {business example}
      - Tap the hot spot of the digital camera
        - » Transport the thumbnails from the digital camera to NFC handset
      - User can enjoy seeing photos on their NFC handset
      - User can send a photo to friends by email, if the NFC handset has internet access

Use-case (4/9)

- Product Group 2
  - These apparatus work with only ISO/IEC 18092
  - The NFC technology that is used by these apparatus are independent from countries and areas
    - MP3 audio player

    {business example}
      - Download MP3 audio file from the web stores to your PC
      - Transport an audio file to MP3 audio player through NFC interface
        - » It takes about 75 seconds per 3 Mbyte of music.
        - » It is slower than USB although easy

Use-case (5/9)

- Product Group 2
  - These apparatus work with only ISO/IEC 18092
  - The NFC technology that is used by these apparatus are independent from countries and areas
    - Amusement Arcade Game with Portable Game Machine

      {business example}
      - Get special item (data) from Amusement Arcade Game machine to your portable game machine through NFC interface
      - Enjoy game on your portable game machine

Use-case (6/9)

- Product Group 2
  - These apparatus work with only ISO/IEC 18092
  - The NFC technology that is used by these apparatus are independent from countries and areas
    - Easy Wi-Fi setup

    {business example}

    - **Wi-Fi Protected Setup** (**WPS**) is a standard for easy and secure establishment of a wireless home network, created by the Wi-Fi Alliance and officially launched on January 8, 2007.

      http://en.wikipedia.org/wiki/Wi-Fi_Protected_Setup

Use-case (7/9)

- Product Group 2
  - These apparatus work with only ISO/IEC 18092
  - The NFC technology that is used by these apparatus are independent from countries and areas
    - Digital synthesizer shortwave radio

    {business example}
      - Tap a tag or an object to the radio
      - Those tag contains a frequency and name of broadcasting station

Use-case (8/9)

- Product Group 2
  - These apparatus work with only ISO/IEC 18092
  - The NFC technology that is used by these apparatus are independent from countries and areas
    - Pedometer, and tiny size health related equipments

    {business example}

      - Transfer the count data from the pedometer to the other apparatus such as PC

Use-case (9/9)

- Product Group 3
  - Apparatus supporting both the existing NFC applications and the existing IC card applications
    - 3G cell phone handset (e.g. NOKIA 6216 classic)

      {business example}
      - Download a discount coupon from a web site to the handset's application memory in advance.
      - Tap PCD by the handset
        - » Discount coupon data is transported from handset to PCD, and discount price data is transported from PCD to handset by the existing NFC application (e.g. OBEX protocol).
        - » If user accept the price on the screen of the handset then proceed to payment.
        - » Payment is done based on the authorization by the existing IC card application in the handset.