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Meeting report from the

SC6 Study Group for Harmonization
between NFC and ISO/IEC 14443
containing the proposed Terms of Reference

Date: March 18-19, 2009
Starting time: 9 am

At the: Fukuoka International Congress Centre

1. Welcoming speech

Mr. Mizutani, executive VP of Panasonic Communications, welcomed the participants to the SC 06 Study Group (SG) Meeting for discussing 14443/NFC harmonization.

2. Organisational issues presented by the host

Nakamura-san kindly provided directions and suggestions for meeting logistics.

3. Introduction and opening remarks by the Co-Chairs

Mr. Meindl reviewed the following documents that have been at the basis of this SC 06 SG and reminded the SG of their purpose to draft their terms of reference.
The SG was Initiated at SC6/WG1 meeting in Montreux, Nov 2008   6N13810.pdf
        Resolutions 6.1.6 and 6.1.7
Resolution 6.1.8   6N13777.pdf

4. Roll call of the participants

JTC 1/SC 06 Study Group Meeting Participants list, 18-19 March 2009

No.	Given Name	Family Name	Organization/ Country	E-mail address
1	Yoshihisa	TAKAYAMA	SG Co-Chair	Yoshihisa.Takayama@jp.sony.com
2	Reinhard	Meindl	SG Co-Chair	reinhard.meindl@nxp.com
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6	Mikio	MUKAI	JAPAN	Mikio.Mukai@jp.sony.com
7	Hiroshi	KARIBE	JAPAN	BYF00476@nifty.ne.jp
8	Karl	Brookes	UK	karl.brookes@eu.sony.com
9	Michael	Hegenbarth	SC 17, Germany	michael@hegenbarth.com
10	Lorenzo	Gaston	France	Lorenzo.gaston@gemalto.com

5. Resolution of the meeting agenda

Draft agenda of the meeting: 6N13822.pdf

The draft agenda becomes the final agenda with the following deletions and addition:
Because there was a discussion about the status of 6N13717 and 6N13755, the SG agreed to remove the item "Related to SC17 ad-hoc meeting on harmonisation" and its documents 6N13717.pdf and 6N13755.pdf.

Mr. Gaston asked where JTC 1 wanted the real harmonisation work would be done. Mr. Hegenbarth reminded the SG about resolution 42 from the JTC 1 plenary in 2008. The SG added resolution 42 from the JTC 1 plenary in 2008 in Nara (N9414) to the list of documents for this meeting:

Resolution 42 - Harmonisation of ISO/IEC 14443 standard with standards on Near Field Communications (NFC)

JTC1 recognises the establishment of a study group in SC 6 to address the harmonisation of the NFC standards and ISO/IEC 14443 with SC 17's collaboration through their on-going liaison relationship. JTC 1 encourages SC 6 and SC 17 to continue this harmonisation effort between the ISO/IEC 14443 series of standards from SC 17 and the NFC standards from SC 6.

JTC 1 encourages SC 6 and SC 17 to first draw-up and agree on a list of technical points to address in order to perform this harmonisation. Ecma International as the originator of the NFC standards is invited to be actively involved in this effort.

SC 6 and SC 17 are requested to report on the aforementioned joint harmonization effort at the next JTC 1 plenary in 2009.

Unanimous

6. Presentation of related contributions

In numbered order

6.1 Source: SC31
        LS: 6N13861.pdf

Mr. Meindl read 6N13861.pdf and Mr. Hegenbarth added that DIN is much involved with SC 31 and that SC 31 might in the future bring a number of contributions to SC 06. SC 31 is also considering harmonisation issues between18000-3 and 15693.

Although the SG does not, at this time, see a direct relation to SC 31 because the SG is concerned with NFC and 14443, the SG noted the LS from SC31 with interest and invite SC 31 experts to provide input to SC 06/WG 1/SG.

6.2 Source: Japanese NB:
        Contribution: N13898.pdf   (replaces N13877.pdf)

Takayama-san introduced N13898.pdf replaces N13877.pdf, repairs some typos, rearranges the order of the slides and adds slide 11.
Nakamura-san added that the limited battery life available for small mobile phones restricts the practical field strength to about 0.5/06 Ampère/meter and that such devices limit the antenna size. So he thinks this is a good opportunity to discuss the ideal antenna size and passive mode support.

Mr. Hegenbarth reported that WG8 is discussing different antenna size; in 14443 a maximum antenna size is specified and that any contribution for antenna sizes would be much welcomed in WG8 and get fair consideration.

Messrs Hegenbarth and Gaston appreciated the quality of the report. Mr. Gaston thinks that regarding slide 16 on it would be more correct to say that the 14443 PCD does not do initial RF detection before exerting its own field; 14443-2 specifies detection of a sub-carrier.
The Japan NB suggests that the SC undertakes to further understand the technical issues rised in this document.

Mr. Hegenbarth noted that current technology allows for low energy use depending on the context.
Mr. Hegenbarth reported that their WG8 test methods 10373-6, that is now under ballot, and recommended its quality. Mr. Gaston thinks that 10373-6 is a powerful tool for convergence because any device that passes 10373-6 is deemed 14443 compliant. Nakamura-san would like to ensure that the hand-set use cases are covered by 10373-6.

Slide 17 illustrates the switch mechanism; the JNB would like to the group to consider extension/broader coverage of modes. Takayama-san noted that with N13898.pdf the JNB contributed the view from SC 06 and do not stick to this point of view; the SC 17 point of view should also be considered in light of the overlapping use-cases.

6.3 Source: SC17
        LS: N13878.pdf (=17n3642.pdf)

Mr. Hegenbarth noted that N13878 is the view of the WG8 convenor aligned with the SC 17 chair.
Mr. Hegenbarth presented N13878.pdf with reference to slide 13 of N13898.pdf. He reported that Germany plans to issue 10 million cards yearly from 2010 onwards for identification and signature purposes. He thinks it should be expected that mobile phones will have to support a host of standards and, therefore, harmonisation will be needed.
He noted that the NFC and 14443 are very similar from the lower layers but different terms.
Therefore, the interface standardisation between PICC and PCD should be done in SC 17 according to Mr. Hegenbarth.

Mr. Gaston begged to differ that SC 17 would not be interested in peer-2-peer mode and that 14443 should be extended according to an expert group in AFNOR (without the official support of AFNOR).

Nakamura-san indicated that there are two peer-2-peer modes aspects of the two peer-2-peer modes should be further studied.

A list of deviations might be achieved from running 10373-6 over the "PICC and PCD roles" devices, Mr. Hegenbarth thinks. Mr. Meindl thinks that this would merely list different functions.

Takayama-san underscored the message of slide 14 of N13898.pdf and thinks that extension of NFCIP-2 would require elaborate study to support the overlapping use cases. On a higher layer, Takayama-san thinks that the SG should provide a solution for the reality that currently devices already implement both standards.

Mr. Hegenbarth would like to have noted that for NFC to have compliance with NFCIP-2 rather than NFCIP-1 should be implemented. Vocabulary harmonisation should be on the list.

6.4 Source: Ecma
        LS: N13887.pdf

Mr. Elzinga presented N13887 and indicated he was happy to now see the first steps to put the issues for a possible harmonisation on the table as also resolution 42 of JTC 1 in Nara encourages.

Mr. Gaston announced that a French expert group is preparing a contribution to add peer-2-peer functionality to SC 17's programme of work, 18092 would have to comply to 10373-6 and 14443 would borrow the higher level peer-2-peer functionally from 18092 to accommodate NFC applications.

Mr. Hegenbarth indicated that WG8 does not have a list of changes between the current and upcoming revision of 14443 in response of Mr. Elzinga question.

6.5 Source: Dutch NB
        Contribution: N13894.pdf.

Mr. Meindl read out the text of N13894.pdf.

Mr. Hegenbarth indicated that N13894 might be revised or withdrawn; the SG, with the exception of Mr. Elzinga and Mr. Meindl think the status of N13894 should be checked.

Mr. Gaston thinks that N13894 is about a process (merger) aspect which is possibly beyond the scope of the group that is to come up with the Terms of Reference for the SG.

6.6 Source: Austrian NB
        contribution: N13895.pdf

Mr. Meindl read out the text of N13895.pdf that also supports the goal of referencing rather than copying and mutually taking advantage of 14443 and 18092 improvements plus support for a list of subjects.

6.7 Source: Y. Takayama:
    Contribution: N13896.pdf
    * ISO/TMB POLICY AND PRINCIPLES STATEMENT
      GLOBAL RELEVANCE OF ISO TECHNICAL WORK AND PUBLICATIONS
    * ISO/TMB IMPLEMENTATION GUIDANCE
      GLOBAL RELEVANCE OF ISO TECHNICAL WORK AND PUBLICATIONS

Takayama-san presented ISO/TMBs policy and principles in N13896.pdf, and urged the SG to take note of the 7 criteria in the "*Introduction*" of N13896.
The SG agreed to these general criteria.

Mukai-san underlined the importance of these criteria.
Mr. Meindl considers the SG even has stricter rules.

6.8 Source: German NB
    Contribution: N13901.pdf.

Mr. Hegenbarth presented N13901.pdf.
The SG does not, that because NFC does not copy or change 15963, see issues and that the work of SC 31 is outside of the scope of the SG.

6.9 Expert contribution from France (to be issued to SC 06)

Mr. Gaston presented the rationale, requirements and technical proposal for an extension mechanism that would aid in harmonising features between 14443 and NFC.

6.10 Expert contribution from France (to be issued to SC 06)

Mr. Gaston presented the expert contribution from France which includes a proposal for an extension of ISO/IEC 14443 Part 3 and 4 that France might contribute to SC 17 as a new work item proposal. The solution would entail a common capability exchange using an 'x-block' on the higher layers (14443-4/18092 DEP) to change to e.g. a new security mode or higher data rates.

Nakamura-san would like to support discussing this contribution as a way forward for harmonisation.

7. Revisiting the NFC standards regarding the need for harmonization with the ISO/IEC 14443 standards

NFCIP-1   ISO/IEC 18092 (available at
               http://standards.iso.org/ittf/PubliclyAvailableStandards/index.html)

Mr. Hegenbarth suggested replacing copied text in ISO/IEC 18092 by a reference to 14443 and related test standards, seconded by the SG.

NFCIP-2   ISO/IEC 21481 (available at
                http://standards.iso.org/ittf/PubliclyAvailableStandards/index.html)

NFCIP-1 RF Test Methods: ISO/IEC 22536 (available at
                http://standards.iso.org/ittf/PubliclyAvailableStandards/index.html)

The SG noted that ISO/IEC 22536 refers to 10373-6 for 106 kbps; Mr. Hegenbarth suggested extending the references to 10373-6 also for higher data rates which the SG seconded.

NFCIP-1 Protocol Test Methods: ISO/IEC 23917 (available at
                http://standards.iso.org/ittf/PubliclyAvailableStandards/index.html)

NFC-WI   ISO/IEC 28361 (available at
                http://standards.iso.org/ittf/PubliclyAvailableStandards/index.html)

NFC-SEC: ECMA-385.pdf (ISO/IEC DIS 13157)

Mr. Gaston noted that the security model of 14443 is based on ISO/IEC 7816. For scenarios between NFC "PCD" and cards 7816 should be taken into account as well as 14443.
The SG discussed the scopes for 7816 and NFC-SEC, Nakamura-san clarified that both have their unique roles for e.g. peer-2-peer key exchange in NFC-SEC and the Secure Element selects its own end to end security and that the SG should seek to provide more clarifications and use-cases.

NFC-SEC-01:   ECMA-386.pdf (ISO/IEC DIS 13158)

8. Develop the Terms of Reference

With reference to 2.xxx of the JTC 1 directives 5th edition, the SG concentrated on the "Definition of the task to be completed and the timeframe" for the ToR.

From resolution 42 from Nara: Develop and maintain a list of technical points to address in order to perform the harmonisation.

8.1   Scope

Study the harmonisation between 14443 and 18092/21481 and make recommendations thereto.

8.2   organisation of the work

The SG will start from justifications using e.g. overlapping use-cases that require communication between 14443 and 18092/21481 devices. Then the SG will identify a list of requirements for the harmonisation of the different layers and modes of operation. This list of requirements will give rise to a list of recommendations for further standardisation. The SG will recommend appropriate allocations to SC 06, SC 17 or SC 31. The representatives of NBs of Japan, Germany, France and the UK support SC 17's position in N13878.

Contributions from liaison organisations, member bodies and experts will be taken into account.

8.3   SG deliverables

The SG will launch a call for editors for the following deliverables as noted in 8.2:
    D1: Use-cases;
    D2: list of requirements;
    D3: list of recommendations.
The SG plans to provide these deliverables latest within one year following approval of their terms of reference. Deadlines for submission are one month before the SC 06/WG1 meetings in June 2009 and January 2010.

8.4   Initial list of technical points to be addressed

RF test methods for NFC-devices/PICC/PCD (10373-6)
Consideration of technical points related to battery powered devices:
    Antenna size, field strength, power-saving,

Harmonisation of Terms, definitions and common requirements and if possible use references rather than copying text (Takayama-san announced that the JNB/SC 06 mirror is compiling a comparison table of terms of references for input to the SG).

Technology mode detection and switching (see slide 14 of N13898)
Mechanisms to enhance the capability exchange of ISO/IEC 14443 to support services offered by 18092/21481, and vice versa (see 6.10)

Study commonalities and differences between the NFC-SEC and the 7816 security models.

9. Planning the next meetings

The SG planned the provisional meetings:
On 10-11 September, possibly in Beijing (or alternatively in Singapore)
On 14-15 December, possibly in Berlin.
Submission is on 18 December 2009 (one month before 18 January SC 06 meetings).

10. Any other business

The SG recommends to SC 06 to distribute this report within SC 06 and send it to SC17 with a request for comments from NBs in time (comments to be received latest on 21 May) for the SC 06 meeting in June 2009.

11. Closing of the meeting by the Co-Chairs

The co-chairs thanked the attendance and specially the appreciation to Nakamura-san who hosts SG on behalf of ITSCJ, for the very efficient and pleasant hosting.

12. Appreciation to the host

The SG thanks for the welcome speech by Mr. Mizutani executive VP of Panasonic Communications.