

SUMMARY of the Second Workshop To develop ANSI/NIST-ITL 1-2011

The second workshop was convened on March 1 at NIST. Over 100 persons participated in the workshop, representing a wide spectrum of interested parties, both national and international, public sector and private sector.

Brad Wing started the session by presenting certificates of appreciation to several people.

The sponsors of the ANSI/NIST – ITL standards work:

- Scott Swann, FBI
- Chris Miles, DHS S&T
- Will Graves, DHS US-VISIT
- Boris Shur, DOJ NIEM

The chairs of the working groups and co-editors:

- John Mayer-Splain (face best practice guidelines, traditional encoding, image resolution, original source representation, reviewer / co-editor)
- Mike McCabe (deprecations, mobile ID, fingerprint image representation, reviewer. co-editor)
- Timo Ruhland (multiple body part representation)
- Rick Lazarick (reviewer / co-editor)
- Bonny Scheier (geographic reference, voice)
- Austin Hicklin (extended feature set, reviewer / co-editor)
- Brian Finegold (Type-1 record revisions)
- Shahram Orandi (mobile ID)
- Anthony Huang (NIEM biometrics domain)
- Eric Albertine (information assurance)
- Mike Hogan (conformance)
- Patrick Grother (iris, hashing)
- Gerry Coleman (XML)

Special appreciation for work on XML schemas and related documents:

- Priscilla Walmsley
- Jennifer Stathakis

New committee chairs:

- Pedro Janices (dental record)
- Alvin Martin (voice record)

Note: Working groups are in effect between workshops; committees exist with no definite end point.

This was followed by Brad reviewing the progress since the first workshop, which was held in July of 2010. Key points were:

- Formation and progress of the 20 working groups
 - 3 month timeframe to develop general recommendations
 - Most inputs received by December
 - Some revisions as late as the week before the second workshop
- First draft of revisions (based on working group inputs) published in January
- Second draft published prior to the workshop
 - Over 300 comments received
 - Proposed dispositions documented in a file on the website
- Next draft will be prepared following the workshop
 - Based on 2nd draft and decisions made at the workshop
 - Additional comments welcome

The schedule for the final publication of this version of the standard is dependent upon whether the participants agree that the draft prepared after the workshop is ready for voting upon. If only one round of comments / review / resolution is required, then the standard could possibly become final by July.

The keynote speaker was Pedro Janices, from Argentina. His presentation is available on the website.

This was followed with a presentation by Dr. Virginia Kanneman about dental records and their use in establishing identity. She also addressed related issues, such as lip prints and bite marks. Her presentation is available on the website. She proposed a basic structure for a new record type-12 to be included in the ANSI/NIST-ITL standard. A straw poll was conducted of the attendees on whether to establish a committee to explore the possibility of a future amendment.

Support - straw poll

- YES (unanimous)
- NO (none)

There was a call for participation.

Pedro Janices volunteered to be chair of committee.

The following people volunteered to be committee members:

- Patrick Grother
- Brad Wing
- Dr. V Kannemann
- Toni Roberts FBI – will find right person
- a representative from INTERPOL will participate

Note: people can volunteer to participate as long as the committee is active.

After a break, Bonny Scheier gave a presentation (see website) about the voice working group that was created at the first workshop. She reported that there is still substantial work to be done before the contents of a voice record can be agreed upon. This was followed with a presentation by Mark Przbocki (see website) concerning a plan for developing a new voice record. He stated that he is hopeful that NIST will be able to host a voice biometrics symposium in Summer, 2011.

A straw poll was conducted of the attendees on whether to establish a committee to explore the possibility of a future amendment.

Straw Poll

YES – to establish a committee

NO – opposed to committee

Vote: by organization NO (1) YES (29) Abstentions (0)

Alvin Martin volunteered to chair the committee.

The initial list of volunteers includes the members of the voice working group (established at the first workshop) and persons involved in the Investigatory Voice Biometrics group. People can continue to join this committee as long as it functions.

There was a question as to whether ISO could lead this, and have ANSI/NIST-ITL follow the ISO lead. The editor of the ISO voice standard spoke and stated that the standards serve different purposes and have different audiences and thus will need to have different approaches and content. He stated that dual standards would be the preferred approach.

This was followed by presentations from the various working groups. (See website for the presentations). This summary addresses only the points raised during the workshop that were not in the presentations. There was considerable discussion concerning the working group recommendations, but the details are not included here unless the outcome affected the content of the standard itself.

- 1) The field 17.018 is deprecated. The definition of its content was vague and not consistent with industry usage
- 2) The XML implementation of Type-17 will not be consistent with that of 2008. This revision makes it consistent with other record types.
 - a. The DoD and TSC have implemented iris records but have no objection to this revised format in XML
- 3) Straw polls were held to accept the working groups recommendations and all passed -- most unanimously.

- 4) The issue of domains and 'subdomains' was discussed extensively
 - a. Draft had the domain field modified to include four new alternate domains in addition to a principal one. Each domain included a new information item for a text description of it.
 - b. Final resolution (after much discussion of alternatives) was to keep field 1.013 as it was in the 2007 version and add a new field for application profiles that the transaction also complies with
 - i. The new field will allow multiple application profiles
 - ii. The new field will have a text information item
 - iii. All information items will be in 7-bit ASCII, like the remainder of the Type-1 record
- 5) There was discussion about the mention of 520 ppi as a limit in the 2007 version of the standard. The 1% (or 2% for PIV) variance was intended. The Resolution Working Group will provide clear wording to the editor to address this point.
- 6) The compression algorithm WSQ has been modified to address a problem capturing thumbprints on large platens. It is Version 3.1. There was agreement among the participants to update the standard to reflect this change.
- 7) Following the presentation on Conformance and subsequent discussion, a call was made to establish a committee to develop a conformance testing document for the ANSI/NIST-ITL standard.
 - a. Elham Tabassi volunteered to be chair
 - b. Current Conformance working group members will be part of the new Committee
 - c. The committee will be open to new members for as long as it is active
 - d. A document is expected to be produced in approximately one year.
 - e. The document will be incorporated as an annex into the standard as an amendment (pending canvass approval)
 - f. Level 3 testing needs to be carefully examined in the document.
- 8) Fields 9.005 through 9.012 were deprecated in the draft of the standard, following the recommendations of the first workshop. Since then, however, it has become known that there are some legacy records (such as at the Western Identification Network) that are occasionally transmitted to the FBI and possibly other locations. To allow for this, the participants agreed to allow the inclusion of these fields *for legacy data only* in the new version of the standard. The editor will make appropriate changes to the text.
- 9) The working group dealing with stitching of fingerprints did not reach a definitive conclusion on how to proceed. The editor had proposed text that included a new field designating simultaneous capture but disallowing stitching of images. There was considerable discussion about this topic.
 - a. US-VISIT currently uses and transmits 'stitched' images of thumbs separately captured that have been separately captured

- i. US-VISIT reported that the FBI had required such a submission
 - ii. US-VISIT standard operating procedures require separate capture of thumbs due to timing and ergonomic considerations
 - b. Coast Guard captures the index and middle fingers together and the ring finger and pinky together on two-finger platens. They then stitch the images together to transmit to the FBI
 - c. The FBI stated that they do not require the images of two thumbs if the thumbs were capture individually, and since amendment 1a-2009 introduced codes for the two-finger combinations, they do not require the four-finger stitched images. They would prefer not to receive stitched images.
 - d. The participants in the workshop agreed (after considering several options)
 - i. Keep the new field that the editor proposed for simultaneous capture of fingerprint images
 - 1. Add specific language describing what is meant by 'simultaneous' capture
 - 2. Specify that it indicates that there is little possibility of sequencing error as a result
 - ii. Add a new field to indicate that an image being sent is the product of stitching
 - 1. It is up to the receiving agency to determine if a stitched image is acceptable
 - 2. It shall be mandatory to mark a stitched image as such if it is transmitted in conformance to this standard.
 - 3. Adjacent platens in a single plane with images joined prior to output from the device are not to be considered stitched.
 - 4. Include language to discourage stitching
- 10) The issue of how to handle extra digits was discussed
- a. The draft had included codes for left and right sixth fingers
 - b. After discussion the following was agreed upon by the participants
 - i. Add new codes but label them 'extra digits'
 - ii. Add language on how to deal with webbed fingers
- 11) The reference to 'rolled plantars' in the draft text is to be removed.
- 12) The new DNA record includes result fields.
- a. There was some discussion as to whether this sets a new precedent for other record types
 - b. It was agreed to keep the DNA record as recommended by the WG and to explore whether this concept might be included in other record types, or whether Record Type-2 is sufficient for that purpose.
- 13) The Subject Acquisition profiles incorporated from the Mobile ID Best Practice Recommendations was agreed upon in principle.
- a. The SAPs for iris were copied form the BPR into the draft of the standard. There was considerable discussion as to whether this was

- wise. The participants agreed to remove the iris SAP specification table and simply refer to the BPR. The other SAP tables are to be kept in the standard
- b. The participants agreed to keep the name SAP for face subject acquisition profiles (due to their historical usage) but come up with new acronyms for fingerprints (FAP) and iris (IAP).
- 14) The NIEM biometrics domain will be chaired by US-VISIT. The charter is being approved internally at DHS. Participants in the ANSI/NIST-ITL process will be invited to join the governing body for the NIEM biometrics domain.
 - a. The XML working group has already created the structure needed for the domain as it will be used in ANSI/NIST-ITL
 - b. The biometrics domain will be flexible and allow updates on the timetable of ANSI/NIST-ITL without being tied to the NIEM update schedule
 - c. Biometrics domain documents will be posted (OR LINKED TO) on the standard's website as they become available.
 - 15) A new code for unknown friction ridge will be introduced, and code 0 will be restricted to unknown fingerprint. The editor will provide appropriate text
 - 16) New codes for wrist creases will be added to the standard.
 - 17) There is enhanced description of how to deal with amputated fingers in the draft of the standard.
 - 18) NFIQ will be undergoing a major update / revision. Elham Tabassi gave a presentation (see website). This was followed by a discussion of how best to incorporate / represent use of this updated quality representation
 - a. The new version will have a different name from NFIQ
 - b. The new scale will be 1 to 100
 - c. The new algorithm will be listed at IBIA and can be directly referenced in Field 14.024, so there is no need for a new information item in 14.023 indicating NFIQ version
 - 19) The participants agreed that wording on maximum platen dimensions should be 'maximum recommended'
 - a. Sizes for feet need to be extended beyond 8 inches
 - b. FBI permits 1.6" by 1.6" based on paper boxes in ink cards
 - 20) The participants discussed the specifications for resolution and how they tie Type-4 and Type-7 records to the same values. This is contrary to actual practice in the field. Participants agreed to:
 - a. Decouple Type-7 resolution from that specified for Type-4 in the Type-1 record.
 - b. Not add any new fields to Type-7
 - 21) Resolution text will be modified to make clear that latent images in Record Type-13 are not restricted to 1000 ppi.

The editor thanked the participants and stated that the above items will be incorporated into a new version of the standard for their review.