

ANSI/NIST-ITL Standard

July 2010 Workshop

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WELCOME TO NIST!

Bathrooms: Just outside the auditorium

Lunch: Available in cafeteria at your expense
(so that we could keep the workshop free to all)

Breakout Room : Dining Room A

Fire Exits: Please notice nearest exit to your seat

Agenda

- Notice changes on the Addendum sheet
- Day 1
 - Introduction
 - Examples of applications of the standard
 - Descriptions of the major proposed revisions
- Day 2
 - Questions / Answers / Discussion of topics presented on Day 1
- Day 3
 - Polling of participating canvasees by topic area
 - Special presentations on related topics
 - New Business (other potential revisions / relationship to ISO)

PRACTICAL APPLICATIONS OF THE STANDARD

FBI: Scott Swann

INTERPOL: Mark Branchflower

Germany: Timo Ruhland

Argentina: Pedro Janices

Florida: Charlie Schaeffer

INTRODUCTION TO THE PROPOSED REVISIONS

- All suggestions offered to me to modify the standard are included in the draft
 - Some were the work of special committees (e.g. EFS)
 - Some were specific content descriptions (e.g. face image markups)
 - Some were based on special studies that I crafted into the format of the standard (e.g. compact iris format)
 - Some were suggestions that I attempted to develop and express in a manner consistent with the standard (e.g. original image record)
- Subject Area Presentations
 - Format is presentation only -- questions on Day 2
 - Presenter is not necessarily the originator of the suggestion or a proponent of it

About the Format of the Standard

- Proposed standard is data-content based
 - Descriptions of WHAT data is included in each record type, field, sub-field and information item
 - Descriptions of HOW the data is formatted are contained in separate encoding documents
 - Allows for updates to instructions and associated files without having to modify the entire standard
 - Example: 2008 standard referenced entire NIEM space; WVU was able to demonstrate a 90% reduction by using a subset of NIEM but that is not technically conformant to the standard
 - Allows updating of referenced lists (e.g. DNA kits)
 - Keeps the standard consistent to ensure interoperability
 - Moves non-content portions to associated files so that they can be updated as needed (e.g. Best Practices)

Day 2 Agenda

- Discuss the Proposed Changes (Moderated Discussion)
 - 3 minutes per person / 1 time to speak per topic
 - No remarks critical of persons or organizations
 - Stick to the topic being discussed: each area has an allotted time slot
 - Discussion will be terminated at the end of the period for that topic so that all topics will be covered
 - People are welcome to continue discussions in the breakout room (Dining Room A)
 - If subject area appears non-controversial, moderator will ask if there are any objections to a declaration of consensus
 - Address the Viewpoints and Questions already received if time allows (see handouts)

Day 3 Agenda

- Presentation on Conformance to the Standard
- Call for participation in working groups to generate rules documents and associated files for Traditional and NIEM-conformant encoding
- Polling of organizations participating in the workshop
 - 42 issues: each polled separately
 - One vote per canvasee organization
 - Either the principal OR a designated alternate may vote
 - Show of hands
 - Options
 - **Yes**: Include the topic in the final draft of the standard and allow non-substantive modifications to current draft for editing purposes
 - **No**: Exclude the topic from the final draft of the standard
 - **Committee**: Refer the topic to a special committee for a three month period to refine the content
 - **Abstain**

Day 3 Agenda (continued)

- Establishment of Committees and Working Groups
 - Working groups to finalize content by subject area
 - Establishment of Management Committee for Biometrics Domain in NIEM (if passed)
- Presentation on Compression Studies at NIST
- New Business
 - Potential for additional subject areas to be in final draft (e.g. voice, proprietary binary data)
 - Open discussion
 - Polling to establish working group (if needed)
 - Establishment of working group (if needed)
 - Relationship with ISO / SC37
 - Other (e.g. another workshop ? / timeline, etc.)

ISSUE 1

- Description: Editor authority to generate final draft for non-substantive changes, including editing, presentation format, error corrections and incorporation of committee inputs.
- Discussion (15 minute maximum prior to polling)
- Polling and Results

ISSUE 2

- Description: Standard name change
- Discussion Summary: Proposal to change name from “Data Format for the Interchange of Fingerprint, Facial & Other Biometric Information” To “Data Format for the Interchange of Biometric and Forensic Information”
 - Discussed in Day 2
- Polling and Results

ISSUE 3

- Description: Addition of a new Record Type 18 for DNA
- Discussion Summary: New record type proposed for DNA that is based upon CODIS, the US input to the ISO standard (including international markers), and extensions to include commercially used to establish familial relationships, as well as a field to specify whether the DNA analysis was performed in a lab or with a mobile unit.
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 4

- Description: Addition of the Extended Feature Set to Record Type-9
- Discussion Summary: A special ANSI/NIST-ITL committee was established to investigate using additional markups for latent fingerprints. It has produced a report. The proposed fields appear in the draft as field 9.300 through 9.362
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 5

- Description: Addition of Record Type-19 for Plantar Prints
- Discussion Summary: Friction ridge images are handled in the standard for fingers and palms. The addition of this record type would extend it to include footprints.
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 6

- Description: New Image Markup Fields for the Face Record(s)
- Discussion Summary: Field 10/11.014 (Face image position coordinates within full image), Field 10/11.031 (Tiered Markup collection), 10/11.032 (Anthropometric 3D markup), 10/11.033 (Feature contours), 10/11.044 (Image Transform), and 10/11.045 (Occlusion) are proposed for addition to the standard. (Which record(s) it would be included in is dependent upon subsequent issue poll results)
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 7

- Description: Field 10/11.018 (Distortion), and Field 10/11.019 (Lighting artifacts) are proposed for addition to the facial record(s). (Which record(s) they would be incorporated in is dependent upon the polling results of subsequent issues)
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 8

- Description: Additional fields in Record Type-17 are proposed for markups of iris images
- Discussion Summary: Field 17.033 (Iris pupil boundary), Field 17.034 (Iris sclera boundary), Field 17.035 (Upper eyelid boundary), Field 17.036 (Lower eyelid boundary), Field 17.037 (Occlusion) are proposed.
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 9

- Description: A new record – Information Assurance – is proposed for Type-98. This allows protection of the data contained in an ANSI/NIST-ITL transaction.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 10

- Description: A new optional field is proposed for most record types that can specify the geographic location of data capture
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 11

- Description: New fields are included in the iris and fingerprint records to allow the recording of Subject Acquisition Profile (SAP) levels characteristic of mobile acquisition devices. Additional codes are included to the existing face SAP table to reflect the “Mobile ID Best Practice Recommendations”
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 12

- Description: Record Types 3,5 and 6 are proposed for deprecation. They would only be included by reference that they are deprecated. For a definition of these records, users are referred to earlier versions of the standard.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 13

- Description: Field 10.021 is proposed for deprecation. It would not appear in the standard, except by reference that it is deprecated.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 14

- Description: Deprecation of the “standard” minutia fields in Record Type-9.
- Discussion Summary: Fields 9.005-9.012 are the “Standard” minutiae format in previous versions of the standard. This proposal is to deprecate them.
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results
- If ISSUE 14 is accepted, a separate poll will be taken whether to deprecate Field 9.004. This field was used to indicate whether the “Standard” format was used in the record. Previous versions of the standard had this as mandatory.

ISSUE 15

- Description: The TOT field (Type of Transaction) has been expanded in some application profiles to 5 letters, which is inconsistent with the 2007 version of the standard. This proposal is to expand the field size in the Encoding Rules for Traditional encoding.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 16

- Description: Record Type-20 is proposed for an Original Reference Image and associated descriptive data.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 17

- Description: A hash field is proposed for addition to most record types.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 18

- Description: It is proposed to make the DOMAIN field in Record Type-1 (DOM) mandatory. It has been optional in previous versions of the standard. This proposal also addresses the content of the field.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 19

- Description: New fields in the iris record to accommodate compact formats, range, lens angle of view, image transform, & acquisition and lighting spectrum
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 20

- Description: A new field (9.901) is proposed for addition to the standard to handle latent workstation annotation. It has been used unofficially for years in existing workstations.
- Discussion (limited to 15 minutes prior to polling)
- Polling and Results

ISSUE 21

- Description: It is proposed that Record Type 11 be established to handle ONLY facial image data. Record Type 12 is proposed to handle ONLY SMT data. In previous versions of the standard, these are both handled in Record Type 10.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 22

- Description: If ISSUE 21 passed, this deals with the question of whether Type 10 is to be frozen with the content in previous versions of the standard and only Types 11 and 12 are to be updated. A YES vote means to freeze record Type-10.
- Discussion Summary:
 - Summary Presented on Day 1 with Discussion on Day 2
- Polling and Results

ISSUE 23

- Description: It is proposed that a code be included in the table of palm codes to include grasp
- Discussion (limited to 15 minutes prior to polling)
- Polling and Results

ISSUE 24

- Description: A question has arisen whether the standard should be extended beyond the NCIC codes to include other characteristics, such as BITES. A YES vote would indicate support for including BITE as an extension of the NCIC codes list in the SMT portion of the standard.
- Discussion (limited to 15 minutes prior to polling)
- Polling and Results

ISSUE 25

- Description: A question has arisen whether ANSI/NIST-ITL should publish a Best Practices document for fingerprints, similar to the one for facial image capture. A YES vote indicates a vote to establish a working group to prepare the document.
- Discussion (limited to 15 minutes prior to polling)
- Polling and Results

ISSUE 26

- Description: A revision to the Best Practices Document for facial images is proposed.
- Discussion (limited to 15 minutes prior to polling) The proposer is invited to describe the change.
- Polling and Results

ISSUE 27

- Description: It has been proposed that a working group be established to generate a new record type for voice data. This topic will be explored in more detail this afternoon. The vote on this topic will be postponed until that discussion.

ISSUE 28

- Description: It has been proposed that a working group be established to generate a new record type for proprietary binary data. This topic will be explored in more detail this afternoon. The vote on this topic will be postponed until that discussion.

ISSUE 29

- Description: Establishment of a Biometrics namespace is proposed for the NIEM-conformant encoding of the standard. This would include the CONTENT of the standard. If it is established as a NIEM Domain, management of the Domain will require a formal management structure to be established. A YES vote means approval of the formation of a Committee to establish and maintain a Biometrics Domain in NIEM, if approved by NIEM governance.
- Discussion The editor will describe the proposed change in a 10 minute presentation. Discussion is limited to 20 minutes prior to polling.
- Polling and Results

ISSUE 30

- Description A question has arisen whether SMT encoding should include 3D markups. A YES vote indicates approval of a working group to develop the content for this change.
- Discussion (limited to 15 minutes prior to polling)
- Polling and Results

ISSUE 31

- Description: It is proposed that the NCIC table previously contained in an Annex to the standard be re-arranged to group the codes by Scar, Mark and Tattoo. It is an associated document in the new version of the standard.
- Discussion (limited to 15 minutes prior to polling)
- Polling and Results

ISSUE 32

- Description: A revision to definition of “Major Case” is proposed.
- Discussion (limited to 15 minutes prior to polling) The proposer is invited to describe the change.
- Polling and Results

ISSUE 33

- Description: It is proposed that a working group be established to review the definitions included in the standard.
- Discussion (limited to 15 minutes prior to polling)
- Polling and Results

ISSUE 34

- Description: It is proposed that the standard be modified to explicitly state that individual images of single fingers captured simultaneously but not on a single platen, when stitched together, be annotated in field 9.020 (Comment). The stitching together of individual images to create a 'generated' slap image is not addressed in earlier versions of the standard (either to allow or disallow it).
- Discussion (limited to 20 minutes prior to polling)
- Polling and Results

ISSUE 35

- Description: Live scan contactless plain and rolled impression types are included in earlier versions of the standard. However, there is no format for 3D images from contactless sensors in the standard. The proposal is to specifically state that the outputs of such sensors are to be 2D -- in the text at the beginning of the Type-14 record.
- Discussion (limited to 15 minutes prior to polling) The proposer is invited to describe the change.
- Polling and Results

ISSUE 36

- Description: A question has arisen whether the M1-378 fields in record Type-9 should be made 'standard'. A YES vote indicates approval of making the M1-378 fields 'standard'. (Note : this is conditional upon the results of ISSUE 14.
- Discussion (limited to 15 minutes prior to polling) The proposer is invited to describe the change.
- Polling and Results

ISSUE 37

- Description: A question has arisen whether WSQ compression should be specifically prohibited for 1000 ppi friction ridge images. Previous versions of the standard state: “The preferred methods for the compression of fingerprint images are WSQ for those images scanned or transmitted at 500 ppi or JPEG 2000 for those images scanned and transmitted at 1000 ppi.” If an image is scanned at 1000 ppi but transmitted at 500 ppi , the wording indicates a preference for storing it using WSQ. Use of the word “Preferred” allows other methods to be used, such as TIFF or JPEG.
- Discussion (limited to 15 minutes prior to polling) The proposer is invited to describe the change.
- Polling and Results

ISSUE 38

- Description: It is proposed that a new description of resolution be adopted for the standard. A YES vote indicates approval for the general concept of the revised presentation of 'resolution'.
- Discussion (limited to 15 minutes prior to polling) The proposer is invited to describe the change.
- Polling and Results

ISSUE 39

- Description: It is proposed that the ability to transmit friction ridge images not be allowed to occur up to 520 ppi for images scanned at 500 ppi.
- Discussion (limited to 15 minutes prior to polling)
- Polling and Results

Issue 40

- Description: It is proposed that a working group be established to develop rules for ASN.1 encoding of the ANSI/NIST-ITL standard.
- Discussion
 - Discussed in Day 2
 - Additional discussion limited to 10 minutes prior to polling
- Polling and Results

ISSUE 41

- Description: It is proposed that a working group be established to develop rules for Short-Tag encoding of the ANSI/NIST-ITL standard.
- Discussion
 - Presented on Day 1 and Discussed on Day 2
 - Additional discussion limited to 15 minutes prior to polling.
- Polling and Results

ISSUE 42

- Description: It is proposed that a “crosswalk” / transcoding reference be developed for the encodings of the ANSI/NIST-ITL standard. A YES vote signals approval of the establishment of a working group to address this.
- Discussion (limited to 15 minutes prior to polling) The proposer is invited to describe the change.
- Polling and Results

Establishment of Working Groups and Committees

Call for chair and volunteers for each working group and committee approved in the polling

Presentation on Compression Studies at NIST

Presented by Shahram Orandi

New Business

- New Voice Record
- New Record for Proprietary Binary data
- ISO SC37 proposal concerning ANSI/NIST-ITL
- Other
- Wrap-up
 - Need for another workshop?
 - Timeline
- **ADJORN!!!**