ISO/TC130/WG2TF2 N 322

ISO/TC 130 WG 2 TF 2 — PDF/X
15th Meeting
25 Sept 2009
Beijing, China

1. Call to order / Introductions

The meeting was called to order at 9:00 a.m. by David McDowell, Chairman of WG2. McDowell announced the retirement of Martin Bailey as chair of WG2/TF2 and introduced Dov Isaacs as interim chair. The host (the Standardization Administration of the PRC (SAC), the National Technical Committee 170 on Printing of the Standardization Administration of China (SAC/TC 170), the General Administration for Printing and Publishing (GAPP) and the Printing Technology Association of China (PTAC)) was thanked for the facilities, the entertainment, food and appreciation was duly noted.

The following were in attendance and introduced themselves:

Dov Isaacs, Interim Chair	Adobe Systems, Inc.	USA
Dave McDowell, WG2 Chair	NPES	USA
Mary Abbott, Secretary	NPES	USA
Debbie Orf, Secretary	NPES	USA
Hye-Jeong Ahn	Graphics World Korea Printing Information & Technology	Korea
Victor Asseiceiro	GMG Americas	USA
Laurel Brunner	Digital Dots	UK
Ray Cheydleur	X-Rite	USA
Phil Green	LCC	UK
Yao Haigen	Shanghai Publishing & Printing College	China
Aran Hansuebsai	TISI	Thailand
Liu Haoxue	Beijing Institute of Graphic Comm.	China
Gallus Hossli	Myllykoski	Germany
Wengiong He	Shenzhen Polytechnic	China
Akihiro Ito	Fuji Xerox	Japan
Andy Kraushaar	Fogra	Germany
Luc Lanat	Stora Enso	France
Paul Lindström	McLure University	Sweden
Heath Luetkens	CGS	USA
Makoto Matsuki	NTT Quaris	Japan
Bruno Mortara	ABTG	Brazil
Koichi Osada	JPMA	Japan
Craig Revie	Fujifilm	UK

Leonard Rosenthol	Adobe Systems	USA
Cai Shengyan	Tianyin University of SGT	China
Santi Songsermawas	Color Group Thai	Thailand
Bryan Sunderland	QC1/BSI	UK
Supree Thongpetch	TISI	Thailand
Hitoshi Urabe	Fujifilm	Japan
Xiaoxia Wan	Wuhan University	China
Larry Warter	Fuji Graphic Systems, USA	USA
Erwin Widmer	Ugra	Switzerland
Wynnie Wlan	APTEC	China
Elaine Xidohiu HE	BIGC	China
Ka Yin An Yeung	HKDI	China

2. Review and approve agenda (N 317)

The committee reviewed the draft agenda (N 317), which had been distributed prior to the meeting. The following changes were made to the agenda:

- A presentation from Phil Green on spot color and overprint models (N 319) was added under item 5.

- Review of document from Olaf Drümmer on "When and how to simulate the effect of overprint in a PDF file" (N 318) was added to agenda item 6. It was noted that a revised version of this was distributed (N318R).

The agenda was approved as amended.

3. Review and approve minutes of last meeting (N 313)

The committee reviewed the minutes of the 22 May 2009 meeting held in Fort Worth, Texas, United States (N 313). There being no corrections, the minutes were approved as distributed.

4. Review Action Items (N 314)

The committee reviewed the action items from the May 2009 meeting (N314), noting the status of each as follows:

AI #	Action Item	Status
09-01	**Rosenthol** will take the data elements needed for spot colour processing identified by Revie and Smiley (for WG2) (N 1351 – N 1351f), and will develop a proposal for how that data should be encoded into a PDF file for ISO 32000.	Open

09-02	**Abbott** will circulate information resulting both the WG2 and WG2/TF2 Action Items relating to spot colour to both WG2 and WG2/TF2 Experts.	See above
09-03	**Bailey** will prepare a letter to WG2, WG2/TF2 and the GWG describing the potential for an amendment to PDF/X-4; either to change OCGs in PDF/X-4 or to add a new conformance level. That letter should mention additional minor errata to be covered in that amendment and a future standard to address spot colour data. It will request feedback and propose discussion on the PDF/X revision Yahoo group (http://groups.yahoo.com/group/pdfx_revision).	Completed (N 315)
09-04	**Abbott** will distribute that letter to WG2, WG2/TF2 and the GWG (see AI 09-03 above).	Completed

5. PDF/X-4 (ISO 15930-7)

5a Background

As noted in the minutes from Ft. Worth there has been a request to modify the existing PDF/X-4 (ISO 15930-7) to address the issue relating to layering and spot color. The committee discussed the issue to determine:

1. If the request is significant enough to warrant a modification to the existing published standard;

2. If so, what method should be used to update the standard; and

3. If we open the standard to modification/revision what other items might we want to modify at the same time.

The Packaging Subcommittee of the Ghent PDF Workgroup (see WG2/TF2 N 310) had presented the issue that they are unable to use PDF/X-4 today specifically because of the way in which the optional content feature of PDF language (layers) is restricted. The packaging experts in the Ghent PDF Workgroup agree that although it is of great importance to unambiguously identify the variants (in the form of OCCDs) in a PDF/X-4 file, the ability to interactively control the display and output of individual portions of the optional content (most notably OCGs and their presentation in the Order array) is more limited than it should be for their needs. For users in the packaging printing industry it is very important to interactively and selectively enable or disable display and output of single layers (OCGs) even though the resulting display of the PDF

may not match any of the variants as defined through the OCCDs in the PDF. The current standard restricts a conforming interacting reader from presenting and offering this functionality.

This issue was not raised until PDF/X-4 was in DIS ballot. At that time, the committee did not have enough experience with a possible means to address the issue to allow a last-minute change to the DIS draft.

5b Proposed solution for packaging use of layers

However, since PDF/X-4 was published, additional work on ISO 19005-2 – *Document management – Electronic document file format for long-term preservation – Part 2: Use of ISO 32000-1 (PDF/A-2)* has provided insight into methods of implementation of PDF that would address this need in the packaging community. It was suggested that the appropriate wording from PDF/A-2 could be incorporated into PDF/X-4 to facilitate additional flexibility for the packaging community without compromising the initial requirements of a “blind exchange” capability. The current option of OCCD would be preserved, but an additional option of using OCMD would be added, making the capabilities in this area identical with those of ISO 19005-2.

In addition autostate capabilities were discussed, but it was agreed that these should not be enabled.

As a result of discussion, it was agreed that OCMD capability defined by PDF/A-2 will be added.

Although there was some discussion concerning the possible/best methods of implementing this addition to the standard, a decision was deferred to later in the meeting.

5c Possible additional "bug fixes"

Having decided that there would be a change to ISO 15930-7 the committee reviewed the following additional areas needing change which are essentially “bug fixes”.

— 2.0 Normative references: Adobe documentation for blend modes has been updated and needs to be added.

— 4.0 Notations: Need to reference the blend mode document in normative text in Clause 4.

— 6.5.2, use of .notdef glyph: A note needs to be added for clarification.

— 6.5.3, font metrics: Replace entire section with new text from PDF/X-2 that is more accurate. This would not change the technical requirements of the standard, or affect implementations.

— 6.5.4, character encodings: Correct existing text. However, making the change could invalidate existing files. It would affect processing, but not rendering.

— 6.10.2, document information dictionary: Replace paragraph 4 with corrected text. This would not impact the rendering of the file, but may impact processing and rendering,

— 6.17, annotations: Add an informative note relating to the intersection of the rectangles, making only an informative change

— 6.24, optional content: Correction of technical error. Replace paragraph 9 to point to the correct dictionary (OCCD).

In addition, the committee looked at proposed changes that could be made to better align PDF/X-4 with ISO 19905-2:

— PDF/X-4 states you shall have a **Configs** key. ISO 19005-2 states you may have a **Configs** key, and defines requirements for the key if it is present.

— PDF/X-4 disallows an **Order** key. ISO 19005-2 states that if you have an **Order** key, the array which is the value of the **Order** key shall contain references to all OCGs in the conforming file.

5d Implementation

The committee discussed whether it would be best to do a "quick" revision that would address the layer issues, as well as other minor edits, while working concurrently on a more extensive document that would address spot color/ink issues, alignment with ISO 32000, etc.; or if it would be better to have no interim minor revision of PDF/X-4.

It is expected that a minor revision of PDF/X-4 and PDF/X-5 could be done in about 6 months. The development of the more extensive part would likely take about 2-3 years to complete. This would be a new part of the ISO 15930 series, and likely a new compliance level (such as PDF/X-6).

It was noted that ISO 16612-2 (PDF/VT) is currently in DIS ballot. That standard depends on PDF/X-4 and PDF/X-5, therefore any major changes made to PDF/X-4 and PDF/X-5, would significantly delay the completion of 16612-2.

It was decided to have the group vote on the following proposed way forward:

Step #1: Minor revision to Part 7 & 8 (PDF/X-4 and PDF/X-5) – SHORT TERM
- Optional Content
- Changes as described above as "bug fixes"

Step #2: Larger revision to PDF/X (New part?) – LONG TERM
- Optional Content
- Changes as described in proposed corrigenda ("bug fixes")
- Spot colors/Ink issues

- ISO 32000d-2 alignment and new features
- Black Point Compensation
- Page-level OutputIntents
- Others

There were 8 votes for this action and 8 abstentions. The action was approved and Rosenthol was appointed the project leader for both activities.

5e File identification

Having decided to add the OCMD capability, the issue of file identification and compatibility with the existing standards, three options were suggested.

Option 1: Introduce the change as a new conformance level (such as X-4o)

Option 2: Make a change to the **GTS_PDFXVersion** key. If the **GTS_PDFXVersion** key. were changed to PDF/X-4:2010, instead of PDF/X-4, the new files would not be recognized by existing conforming readers as being valid PDF/X-4 files. This is what was done for PDF/X-1a and PDF/X-3.

Option 3: Add a new metadata key (**GTS_PDFXRevision)** that identifies these new files. This means that for the new files the value of the **GTS_PDFXRevision key would be "**=2010". All new files would still be recognized as PDF/X-4 compliant by existing readers and validators. This is the method taken in PDF/A-1 and its corrigenda.

It was noted these options have been discussed with two key PDF/X experts (Martin Bailey and Olaf Drümmer) who were not able to attend the meeting. Both of these experts indicated that they prefer Option 2. Option 2 would recognize the 2010 file as a valid PDF file, but would not recognize it as a PDF/X-4 file.

Others felt it important that to truly validate PDF/X-4 files, it is important to ensure that all PDF/X-4 files are tagged as such, to avoid the possibility of getting unexpected output. For example, a new file could be processed in accordance with the "old" (2008) rules, and would fail.

A 2010 validator would need to know if the file is a 2008 file or a 2010 file. Because OCMD files were not allowed in 2008, a 2008 file that contains a feature not allowed in the 2008 version should still fail.

After discussion on the best way to accomplish compatibility with ISO 19005-2 it was decided to delete option 1 and reword options 2 and 3 for the purpose of voting as follows:

1. Change in the **GTS_PDFxVersion** key
    a. This means that new files would be PDF/X-4:2010 instead of PDF/X-4
        i. not recognized as valid PDF/X-4 by existing conforming readers
        ii. not recognized as valid PDF/X-4 by existing validators

   b. This is what we did for X-1a and X-3

2. Add new metadata keys that identify these new files
   a. e.g. **GTS_PDFXRevision** = 2010
   b. All new files would still be recognized as PDF/X-4 compliant
      i. By existing readers and validators
      ii. But could actually fail validation if it uses changed items
   c. PDF/A-1 and it's corrigenda

The results of the vote were 7 votes for option 1 and 3 votes for option 2. Option 1 was carried as the way to go forward.

Next, the committee addressed how this change would be accomplished. As there are technical changes (not corrections) to the standard, it is not possible to do it as a corrigenda. Therefore, the only choice is to revise the standard retaining the same document and part number.

During discussions with the ISO Technical Officer it was determined that if these changes constitute a minor revision to the standard (in the opinion of the committee), such a revision can move directly to an FDIS ballot. A Plenary resolution is required and a short review period (30 days) is required to insure that all National Bodies are aware of the proposed changes.

It was agreed by the members of WG2TF2 present that this constitutes a minor technical change and the Convenor of WG2 was asked to prepare and present the necessary Plenary resolution.

Action Item 09-05: Rosenthol and McDowell will prepare a document (TC130N1547) for distribution to the members of TC 130 summarizing the proposed changes to ISO 15930-7 and ISO 15930-8 as agreed to by WG2TF2.

Action Item 09-06: Rosenthol and McDowell will prepare the revised text of ISO 15930-7 and ISO 15930-8 as described above to be forwarded to ISO/CS for FDIS ballot at the end of the review period.

6. Discussion of spot color issues

Revie presented the revised proposal for PDF support for spot colour inks. He noted that there is support in the industry among vendors for this proposal. The proposal is to extend output intent to add a mixing hints dictionary. The committee discussed whether DotGain should be included. This would necessitate a change to the current pdf rendering model.

Action Item 09-07: Rosenthol will take presentation from Revie and formalize into a proposal for the ISO 32000 committee. Rosenthol to submit to Orf for distribution to the committee for a one week review.

Minimum spot colour requirements were discussed along with the defined required tags. The question was asked how to incorporate this information into pdf documents. It was also asked if

we are dealing with any licensing requirements with this proposal. There are proprietary techniques for rendering as related here.

7. Review use of CxF for spot color data and incorporation of CxF into PDF

There was a presentation by Green on Spot color overprint models and PDF. The proposal is based on two components, a method to calculate opacity index, and ink opacity for PDF/X. The correction factors could be estimated using ink opacity (derived from measurements of the proposed test form) and tonal value (derived using ICC profile and/or tint value specific in PDF), which will give an acceptable accuracy in predicting the XYZ of a spot color overprint.

It was agreed that this data is sufficient for what is currently in use within the industry. Further, it was agreed that this would be beneficial to anyone using it as a tool for better handling and better management of spot color.

Action Item 09-08: Revie and Rosenthol to request that the ICC develop a white paper discussing changes to the pdf rendering model necessary to support the new mixing hints dictionary being proposed to ISO 32000. In addition, it should also address the concerns of Drümmer's letter on overprint.

8. Presentation on Overprint Simulation

Rosenthol presented a proposal submitted by Drümmer on When and How to simulate the effect of overprint in a PDF file. There is an issue of long term archiving determining whether or not it is acceptable for a PDF/A file to simulate overprint when it is found. The issue is whether overprint simulation is required and, if so, what should be done with the information?

At issue is whether there should be any sort of mandate for a conforming reader of PDF/A, X, etc. to be able to simulate overprinting. Second, if it is agreed to mandate overprinting simulation, should the process by which that overprint simulation takes place be stipulated in normative text? Finally, if mandated, where should that happen?

It was determined that in this committee overprint simulation is not an issue, as there have been solutions that have been used to determine whether overprint has been properly read. However, it was agreed this is a problem that needs to be addressed and it was felt this committee is best qualified to do the work. It was decided this will be handled along with the white paper being written by the ICC on spot colour. See Action item 09-08.

9. Other business

Revie raised the issue that there were no direct representatives of the packaging industry present. There was general agreement and it was decided it would be worthwhile to send a formal letter from the chair to encourage participation from this group.

Action Item 09-09: Isaacs to draft a formal letter to key vendors within the packaging community to encourage participation.

10. Date and location of next meeting

The next TC130 working group meetings are scheduled for April 19-24, 2010 in Switzerland. WG2/TF2 will meet and require 2 days.

The Fall meeting will held in conjunction with the TC 130 Working Group and Plenary meetings October 11-16, 2010 in Brazil**.**

11. Review action items

The action items were approved and will be distributed to the committee along with the minutes.

12. Adjourn

The committee expressed their thanks to Isaacs and Rosenthol for all their advance preparation for this meeting.

There being no further business the meeting was adjourned.