

**IPP Fax Meeting Minutes**  
**June 28, 2002**  
**Portland, OR**  
Author: John Pulera

**Attendees:**

Lee Farrell	Canon
Harry Lewis (PWG chair)	IBM
John Pulera	Minolta
Rick Seeler	Adobe
Amir Shahindoust	Toshiba
Gail Songer	Peerless
Ted Tronson	Novell
Bill Wagner	Netsilicon
Yiruo Yang	Epson

**Agenda**

- Requirements check
- Decide what to do about the data format (IPP solution? TIFF-FX? PDF?)

**Requirements Check**

The group reviewed the requirements as outlined in the charter authored by Paul Moore ("ipp-fax-charter-02.pdf"). We began by going through sentence by sentence:

"Charter Statement"

Discussion on interpretation of "appropriate characteristics of PSTN faxing for use on the Internet and company intranets"

**Sentence 1**

The working group is tasked with defining a protocol that enables the synchronous, negotiated exchange of image documents on a network.

Group agreed.

**Sentence 2**

The exchange must be capable of being made secure.

Group agreed. Harry indicated there is a small divergence here. The current IPP Fax spec makes it so that an IPP Fax transmission is *always* secure vs. being *capable* of being made secure". There was rough consensus in the group to make security not a requirement but optional.

**Sentence 3**

Particular emphasis is placed on recreating the appropriate characteristics of PSTN faxing for use on the Internet and company intranets.

To Harry, "appropriate characteristic" means feeding the paper into one place & waiting for it to come out the other. Bill said we should explicitly state the characteristics of

PSTN that we would actually like to carry over (e.g., *perceived* notion of security, legal standing).

More on legal standing: Rick stated digital signatures have legal standing – Adobe Acrobat has the capability of adding digital signatures. There is inherent 3<sup>rd</sup> party verification since you have to prove your identity to a 3<sup>rd</sup> party to get one.

Bill reminded us that we should stick to trying to identify the requirements for now (not the implementation details). We want to identify the source, the time, and the fact that it hasn't been tampered with.

Harry proposed two fundamental objectives: (1) use the Internet to transmit facsimiles; (2) up the bar on quality over PSTN.

Lee posed the question, "Are we all here because of past inertia? Or are our companies genuinely pushing for this technology?"

Bill indicated that Internet FAX has already achieved the 2 objectives listed above: (1) they've already made it look like normal fax (2) they are increasing the quality by adding high resolutions in the TIFF-FX Extension 1 specification.

Harry stated that a 3<sup>rd</sup> objective should be Security, i.e., provide authentication, confidence of content (data integrity), and time/date. Harry said our solution should offer a solution that, on paper, replaces the same uses that PSTN is currently satisfying. Or...maybe we should dissolve the IPP Fax group due to lack of interest.

John P. told the group that it would be a shame to have put all this thought and development into the IPP Fax protocol and to not have a finished spec. John told the group that Minolta would like to see the spec finished and that he will be able to attend future meetings to help with fleshing out the requirements for a data format.

Harry indicated that we should just make PDF our new UIF and do whatever finish-up work is necessary to publish a spec.

Bill asked if we should motion to push on.

Amir indicated that maybe we should ask our marketing people. John replied that this question has come up more than a couple of times, and each time we resolved to get marketing input, nothing ever came of it. John reiterated that the IPP Fax spec in its current form represents our thoughts about requirements over the last two years, and that he doesn't think they should be revisited.

There was consensus to discuss now how to fit in PDF while Rick was still there to answer questions.

We then reviewed emails that have been posted. Concerning Don Wright's specific questions about PDF licensing, Rick said he will have to get back to us.

Rick briefly described how PDFX subsets PDF for pre-press-specific needs. He said that with PDFX, additional fields are required, objects need to be trapped in a certain way, and certain resolutions need to be used.

Rick indicated that, In the PDF reference, there are topics on encryption (chapt 3.5.1) that allow 40 – 128 bit encryption and digital signatures (p 72, algorithm #2 would be the choice, as it supports up to 128 bits). Also pages 547-548 contains info on digital signatures.

Gail said we may wish to consider encrypting the document with pdf (vs. using SSL within the IPP Fax protocol).

Harry said we should possibly look into the PWG as a certifying authority (would be cheaper than using, e.g., Verisign).

Bill asked Rick if we can put new attributes into PDF?

Answer: Yes, see Appendix E of the PDF manual. Developers can register attribute names to Adobe.

Width, height, color space, bits per component, intent, interpolate are fields that are already present.

We then discussed whether the image compressions supported by PDF will give us the same flexibility as TIFF-FX. John indicated that we have the equivalent for everything but Profile L (which is not very popular in Internet Fax circles anyway). PDF allows the equivalent of MRC with its ability to layer different objects (e.g., we can have a lossy color JPEG background object with sharp black text over it. Rick showed examples of lossy JBIG2 encoded data (imperceptibly lossy, high compression) vs. G3 data (lossless, compression ratio not as good).

John agreed to take on the action item to look into how to restrict PDF to satisfy IPP Fax data format requirements. John will also Investigate whether we need to specify minimum strip sizes.

Harry agreed to determine if JBIG2 has any IP associated with it. If not, then we can use this as our baseline; otherwise, we may want to select the CCITT (G3/G4 Fax) encoding as our baseline for bi-level data, which is what TIFF-FX uses for Profiles S & F.

Question: Should we use UPDF to describe the interdependencies of what a printer supports instead of CONNEG? Pros: PWG (vs. IETF) would be in control of the UPDF spec. Cons: there's more work to be done.

The group reviewed Ron's IPP-based data format solution:  
The 'compression' tag would have to be expanded; BUT we can potentially have more than one compression algorithm *per page* as is the case with MRC.

If you had one compression type per page and each page was its own document, then you can conceivably do it (but it would be contrived). Therefore, the group decided to follow Ron Bergman's advice and use a different approach.

Rick underscored the advantages of adopting the PDFax approach:

- Existing document format
- Potential ISO designation
- Existing Reader deployment
- Adobe may consider building products that specifically generate our version of PDF.

Concerning relationship of IPP Fax with PSI, Harry said we may want to revisit this from the PSI end of things.