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Printer Working Group
IPP Fax Project
IPP Fax Requirements

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Abstract: This document captures the requirements for IPP Fax, both the transport and the document format. This document assumes that the reader is familiar with IPP 1.1.

This document is available electronically at:

[wd-iffreq10-20030806.doc](#)

A version showing the changes from the previous version is available at:

The latest version of this specification is available at:

<ftp://pwg.org/pub/pwg/QUALDOCS/iffreq10-latest.doc>

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Title: The Printer Working Group Definition of the Standards Development Process

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About the IEEE-ISTO PWG

The Printer Working Group (or PWG) is a Program of the IEEE Industry Standards and Technology Organization (ISTO) with member organizations including printer manufacturers, print server developers, operating system providers, network operating systems providers, network connectivity vendors, and print management application developers. The group is chartered to make printers and the applications and operating systems supporting them work together better. All references to the PWG in this document implicitly mean "The Printer Working Group, a Program of the IEEE ISTO." In order to meet this objective, the PWG will document the results of their work as open standards that define print related protocols, interfaces, procedures and conventions. Printer manufacturers and vendors of printer related software will benefit from the interoperability provided by voluntary conformance to these standards.

In general, a PWG standard is a specification that is stable, well understood, and is technically competent, has multiple, independent and interoperable implementations with substantial operational experience, and enjoys significant public support.

For additional information regarding the Printer Working Group visit: <http://www.pwg.org>

Contact information:

IPP Fax Web Page: <http://www.pwg.org/qualdocs/>
IPP Fax Mailing List: ifx@pwg.org

To subscribe to the IPP Fax mailing list, send the following email:

- 1) send it to majordomo@pwg.org
- 2) leave the subject line blank
- 3) put the following two lines in the message body:
subscribe ifx
end

Members of the PWG and interested parties are encouraged to join the PWG IPP Fax Mailing List in order to participate in any discussions of clarifications or review of IPP Fax.

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1. Glossary

Sender – A piece of hardware and / or software that sends IPP fax documents to an IPP Fax receiver

Receiver – A piece of hardware and / or software that receives IPP Fax traffic.

Sending user – The human that initiates the transmission of an IPP Fax

Receiving user – The intended human recipient of an IPP Fax

Image format –

Support -

2. Protocol Specification Requirements

2.1. *Public access*

An administrator of an IPP Fax Receiver needs to be able to make it publicly available on the Internet (or an intranet) but also needs to be informed of the identity of the sending user and equipment.

2.2. *Basic requirements*

The spec must support:

- synchronous and timely delivery to the Receiver
- Using Internet protocols
- Encryption (privacy)
- Data integrity (reliability)
- Server authentication

2.3. *Basic rules*

The spec must support:

- Use of an ippfax: URL to identify a Receiver
- Use of Data privacy by the Sender.
- Mandatory server authentication to identify the Receiver.
- Client authentication of the sender.

2.4. *IPP extensions*

The spec must support:

- Identification of a job as an IPP Fax Job.
- Both Anonymous and authenticated access by the Sender

The spec should support:

- Job Progress and Completion Notifications.

2.5. Identity exchange

The spec must support:

- Exchange of unique 'identity' of Senders and Receivers (equipment)
- Structured descriptions of Sending Users and Receiving Users – their identity. (This data is machine-readable. It contains name, email, mail, phone, etc.)
- Exchange of unique 'identity' of Sending User and Receiving User

2.6. IPP restrictions

The spec must support:

- Restricting a Receiver from allowing anonymous users to access job information.
- Restricting a Receiver from allowing an anonymous user or authenticated job owner to cancel jobs.
- Restricting a Receiver to only allow authenticated operator or administrator to cancel jobs.
- Restricting a Receiver from allowing any user to modify jobs.
- Restricting a Sender or Receiver from supporting any non-PDF document format.
- Restricting an anonymous from querying jobs
- Restricting authenticated job owner from querying other user's jobs.
- Restricting a Receiver allowing any user performing any administrative operation except cancel job.

2.7. Notifications

The spec should support:

- Notifications for authenticated senders.

2.8. Logging

The spec must support:

- Sender logging of IPP fax transactions
- Receiver logging of IPP Fax transactions
- The receiver marking the sender identity on at least the first page of an IPP Fax document.

2.9. Document format

The spec must specify:

- at least one IPPFax required document format for Receiver.

3. Document Format Specification Requirements

The spec must support:

- The use of a subset of Adobe's PDF (tentatively named PDF/is) for guaranteed interoperability (that is blind exchange)

3.1. *Image format*

The PDF/is spec must support:

- Raster image data.
- JPEG, JBIG2, and CCITT Group 4 image compression types.
- All image compressions as mandatory for all receivers.
- Extensibility of image compressions in future versions.
- Full compatibility with Acrobat Reader version 5.X and define a valid subset of PDF 1.4
- **NOTE: Make sure that all Sender and Receiver's are capitalized**
- Streaming of document data on a page by page basis. (That is, the Receiver can begin rendering a page once the Sender has sent all data for that page. In addition, the Sender can begin sending a page's data before other pages in the document are available to the Sender.)
- Optional searchable/extractable invisible text. (Text rendering mode 3, see [PDF] table 5.3)
- Optional identifiable "Originator-ID" image.

The PDF/is spec should support:

- Image compressions suitable for archiving.
- Be compatible with PDF/A (www.aiim.org).
- Optional digital signatures for Senders and Receivers.

3.2. *Color*

The PDF/is spec must support:

- 8-bit sRGB color images.
- 8-bit grayscale images.
- Bi-level monochrome images

3.3. *Resolution*

The PDF/is spec must support:

- Image resolutions of 300 dpi or greater.
- Only equivalent horizontal and vertical resolutions. (square aspect ratio)

3.4. *Page*

The PDF/is spec must support:

- Multi-page documents.
- Portrait page orientation.
- Image encoded in row order (left to right, from top to bottom).
- Multiple images on a page.
- Only horizontal banding.
- Page orientation indication by the Sender.
- Color, resolution and image format independence between pages.
- Optional duplex document indication.
- Page order indication.

The PDF/is spec should support:

- Resynchronization on page boundaries after encountering damaged data by Receivers

3.5. *Printable area*

The PDF/is spec must support:

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- Minor scaling of images to allow for similar page size accommodation (for example North-American Letter and A4).
- Indication of the original imaged area for each page.

3.6. *Meta-data*

The PDF/is spec must support:

- Optional inclusion of metadata as well as images (for example XML or hidden text).
- Unambiguous indication that the document data is in PDF/is format.
- Unambiguous indication of the version of PDF/is.
- Extensibility for new meta-data attributes.

Revision	Date	Author	Notes
1	10/16/2000	Paul Moore, Peerless Systems Networking	Initial
3	7/15/2003	Gail Songer, Peerless	Clean-up. Modify "Public Access" and "Basic Requirements"
4	7/23/2003	Gail Songer, Peerless	Clean-up. Remove references to IPPGet and PDF/is and replaced with generic statements. Remove section on Gateways.
5	8/06/2003	Gail Songer, Peerless	Convert document to PWG standard. Merge the protocol requirements spec and the data format requirements spec.