IEEE-ISTO
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-ifxreq10-20030806.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/ifxreq10-latest.doc

About the IEEE-ISTO

The IEEE-ISTO is a not-for-profit corporation offering industry groups an innovative and flexible operational forum and support services. The IEEE-ISTO provides a forum not only to develop standards, but also to facilitate activities that support the implementation and acceptance of standards in the marketplace. The organization is affiliated with the IEEE (http://www.ieee.org/) and the IEEE Standards Association (http://standards.ieee.org/).

For additional information regarding the IEEE-ISTO and its industry programs visit http://www.ieee-isto.org.

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:

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subscribe ifx
end
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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.

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

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 PDS/is spec must support:

- Raster image data.
- All image formats, and compressions are mandatory for a receiver to support.
- PDF/is supports JPEG, JBIG2, and CCITT Group 4 image compression types.
- The set of compressions supported is extensible in future versions of PDF/is.
- Support for vector data may be added in a future version of PDF/is.
- A PDF/is document must be a valid subset of PDF 1.X (TBD) and be fully compatible with Adobe's Acrobat Reader version X (TBD).
- The format must be streamable 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.
- The format must allow for digital signatures which will be optional for both the sender and the receiver.
- The format must allow for optional searchable/extractable text. The text must only be displayed as part of an image and not as a stand-alone text object.
- The format must allow for an optional identifiable "Originator-ID" image.
- The format should be suitable for archiving.
- The format should be compatible with PDF/A (www.aiim.org).

3.2. Color

The PDS/is spec must support:

- PDF/is support color, grayscale, and monochrome images.
- All images must be in the sRGB colorspace.

3.3. Resolution

The PDS/is spec must support:

- Any image resolution at or above 300 dpi is supported.
- The horizontal and vertical resolutions must be the same (square aspect ratio).

3.4. Pages

The PDS/is spec must support:

- PDF/is supports multi-page documents.
- The data is presented within a PDF/is document in its 'natural' order. Normally, a receiver does not need to buffer more than one page of data to be able to process the page.
- An individual page is presented from top-left to bottom-right. A receiver therefore does not need to buffer a whole page.
- A page may be presented as one or more images (banding is permitted).
- Page orientation is determined by the sender
- Pages are independent with regards to color, resolution and image format.
- The format must support duplexed documents.
- The format must support recovery from damaged files.

3.5. Printable area

The PDS/is spec must support:

- Page positioning and scaling of images is explicitly specified in the format.

- The PDF/is document specifies the original document media size for each page.

3.6. Meta-data

The PDS/is spec must support:

- PDF/is is capable of carrying metadata as well as images.
- The set of metadata attributes is extensible.

3.7. Persistence

The PDS/is spec must support:

- A PDF/is document can be stored as a PDF file.

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.