

# Status of IPP FAX

presented by Lloyd McIntyre, Xerox  
at the Internet FAX WG meeting at  
IETF51, August 5-10, 2001, London

# IPP FAX Time Line

- Started IETF discussions summer 1998
- Printer Working Group standard project
  - Started September 2000
  - Originally called “High Quality Document Distribution” (QUALDOCS)
  - Renamed to IPP FAX to help recognition
- Proposed PWG standard: October 2001
- Bake Off: April 2002
- Updated Final PWG standard: July 2002

# What is IPP FAX?

- Immediate, reliable, secure Internet transfer of high-quality Universal Image Format (UIF) (enhanced TIFF/FX) documents between a Sender and a Receiver
- Uses the standards track Internet Printing Protocol (IPP/1.1), RFC 2911 and 2910, September 2000
  - Most Printer vendors currently shipping IPP
  - Internationalization: document charset and language identified
- Immediate capability query, prompt job accept response, and subsequent printing completed notification
- IPP is layered on HTTP/1.1 sessions with default port 631
- Uses Transport Layer Security (TLS, RFC 2246)

# UIF (Universal Image Format)

- Higher UIF conformance requirements for each TIFF/FX Profile: S, F, J, C, L, M:
  - 200, 300, 600 DPI REQUIRED for B/W
  - 200, 300 DPI REQUIRED for color
  - 200, 300, 400 DPI REQUIRED for profile M
  - Resolution not constrained
  - ImageWidth not constrained
- MIME type - self describing subset of:
  - tiff/image; application=uif; profile=s,f,j,c,l,mcfjls

# UIF S and C Profiles

```
(& (image-file-structure=TIFF-limited-uif)
  (MRC-mode=0)
  (color=full)
  (image-coding=JPEG)
  (image-coding-constraint=JPEG-T4E)
  (color-subsampling="4:1:1")
  (color-levels<=16777216)
  (color-space=CIELAB)
  (color-illuminant=D50)
  (CIELAB-L-min>=0)
  (CIELAB-L-max<=100)
  (CIELAB-a-min>=-85)
  (CIELAB-a-max<=85)
  (CIELAB-b-min>=-75)
  (CIELAB-b-max<=125)
  (dpi=[200,300])
  (dpi-xyratio=1) )

(& (image-file-structure=TIFF-minimal)
  (MRC-mode=0)
  (image-coding=MH)
  (color=Binary)
  (dpi=[200,300,600])
  (dpi-xyratio=1) )
```

# IPP FAX Protocol

- Get-Printer-Attributes request/response operation
  - query for profiles and CONNEG options supported
  - media supported, media loaded, resolutions, etc.
- Print-Job operation to submit UIF document
  - End-to-end document transmission with prompt response: all data received, all attributes validated
- IPPGET Event Notifications
  - Events for each page and last page printed
  - Either Sender polls or Receiver sends events
  - Reliable: uses IPP/1.1 protocol

# IPP FAX Specifications, 7/27/01

- Universal Image Format (UIF)
  - <ftp://ftp.pwg.org/pub/pwg/QUALDOCS/uif-spec-06.pdf>
- IPP FAX Protocol (IFX)
  - <ftp://ftp.pwg.org/pub/pwg/QUALDOCS/ifx-spec-06.pdf>
- IPP/1.1 Model and Semantics (RFC 2911)
- IPP/1.1 Encoding and Transport (RFC 2910)
- IPP Event Notifications and Subscriptions
  - [draft-ietf-ipp-not-spec-06.txt](#)
- IPPGET Delivery Method for Event Notifications
  - [draft-ietf-ipp-notify-get-04.txt](#)

# IPPFAX contacts

- IPPFAX Web Page:  
<http://www.pwg.org/qualdocs/index.html>
- To send to `ifx@pwg.org` mailing list, you must first subscribe:
- To subscribe to the `ifx@pwg.org`, send mail to `majordomo@pwg.org`:
  - 1) leave the subject line blank
  - 2) put the following two lines in the message body:  
subscribe ifx  
end