IPPFAX Protocol ISSUES and Changes

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This document lists the changes in the IPPFAX Protocol from version 0.6 (July 27, 2001) to make version 0.7 (October 15, 2001). Version 0.7 has all of the agreements reached at the August 1, 2001 meeting in Toronto, and the three subsequent telecons, August 11, 14, and 17. The 41 issues in version 0.7 were resolved. See the Notes from these meetings for the list of agreements. There are 4 new issues listed below which are also embedded in the document.

Here is the table of contents with the changes and issues indicated in each section. Changes that are highlighted like this should be reviewed carefully at the upcoming October 24, meeting in San Antonio and on the mailing list. I added a lot of tables to replace running text. All tables should be checked at the meeting.

Title Page 1

Added the IEEE-ISTO standards number, starting a new IPPFAX series: 5102.1. The UIF document will be 5102.2, OK?

1 Introduction 7

1.1 Namespace used 7

2 Terminology 7

2.1 Conformance Terminology 8

2.2 Other Terminology 8

Added the following new terms: IPP Protocol, IPPFAX Protocol, Effective URL Context, Printer object, IPP Printer object, IPP client, TIFF, TIFF-FX, UIF Profile

2.3 Supporting both IPP and IPPFAX protocols in a single implementation 10

Added this section as agreed.

2.4 Required exchange 10

3 Common IPPFAX Operation Semantics 11

3.1 printer-uri operation attribute ([RFC2911] section 3.1.5) 12

Required that the ‘ippfax’ URL scheme be used as agreed.

Deleted the “ippfax-semantics (type2 keyword) operation attribute and “ippfax-semantics-supported (1setOf type2 keyword) as agreed.

3.2 printer-alternate-uri (uri) operation attribute 12

Added this attribute to control Effective URL Context for administrators

3.3 version-number parameter ([RFC2911] section 3.1.8)..... 13

Added this section and clarified that it MUST contain the IPP version on which IPPFAX rides as agreed.

3.4 ippfax-version-number (type2 keyword) operation attribute..... 13

Added this attribute as agreed.

4 Get-Printer-Attributes operation semantics 14

4.1 document-format (mimeMediaType) operation attribute ([RFC2911] section 3.2.5.1)..... 14

Receiver MUST color attributes by document-format as agreed.

4.2 ippfax-uif-profile-requested (type2 keyword) operation attribute 15

5 IPPFAX Printer Description Attributes..... 16

Added Table 1 and 2 which lists all Printer Description attributes and indicates Receiver conformance, including coloring by “document-format” and by Effective URL Context.

5.1 printer-uri-supported (1setOf uri) [RFC 2911 section 4.4.1] 18

5.2 ippfax-versions-supported (1setOf type2 keyword)..... 18

5.3 printer-is-accepting-jobs (boolean) [RFC 2911 section 4.4.23]..... 18

Added this section.

5.4 operations-supported (1setOf type2 enum) [RFC 2911 section 4.4.15] 19

Added this section.

5.5 document-format-supported (1setOf mimeMediaType) [RFC 2911 section 4.4.22]..... 19

Added Table 3: Clarified that ‘image/tiff’ only means UIF Profiles S, and F - as per Internet FAX WG discussion.

Added Receiver MAY support ‘image/tiffx’ (UIF Profiles J, C, L, M).

5.6 ippfax-uif-profiles-supported (1setOf type2 keyword)..... 20

Added Table 4 and ‘uif-cg’ and uif-lg’ for gray scale subset.

5.7 ippfax-uif-profile-capabilities (1setOf text(MAX)) 20

5.8 ippfax-auto-notify (boolean) 21

Added this attribute as agreed.

6 Identity exchange 22

Added table 5 to show conformance.

6.1 ippfax-sending-user-vcard (text(MAX)) operation/Job Description attribute 22

Changed Sender SHOULD to Sender MAY as agreed.

Also removed the 1setOf from 1setOf text(MAX) to agree with “ippfax-receiving-user-vcard” (text(MAX)). 1023 octets seems plenty.

Clarified that the Receiver MAY ignore sounds, graphics, and images for both as agreed.

6.2 ippfax-receiving-user-vcard (text(MAX)) operation/Job Description attribute 23

6.3 ippfax-sender-uri (uri) operation/Job Description attribute 23

Clarified what the URI is and the conformance.

6.4 printer-uri-supported (1setOf uri) Printer Description attribute ([RFC2911] section 4.4.1)... 23

7 Data Exchange - IPPFAX Job Submission 24

7.1 Sender Validation of the target Printer's capabilities 24

Clarified that the Sender MAY validate with either Get-Printer-Attributes only or a combination of Validate-Job and a few Get-Printer-Attributes.

7.1.1 Validating the Printer's IPPFAX capabilities using the Get-Printer-Attributes operation 24

Added Table 6 to show the validation that the Sender MUST perform.

7.1.2 Validating the Printer's IPPFAX capabilities using the Validate-Job operation 26

7.2 Fallback to the IPP Protocol 26

7.3 Transmission using the Print-Job or other Job Creation operation 26

Replaced “Print-Job operation” with “Job Creation operations”, but Receiver MUST support Print-Job and MAY support other Job Creation operations.

7.3.1 IPP/1.1 Validate-Job and Job Creation operation attributes 27

Added Table 7 showing Sender Validation of Receiver's support for Job Template attributes.

7.3.1.1 document-format (mimeMediaType) operation attribute ([RFC2911] section 3.2.1.1).... 28

ISSUE 01: OK to REQUIRE the Sender to supply the "document-format" of the document being sent (unlike IPP/1.1)? What if the Sender didn't create the document and the Receiver supports multiple formats, such as image/tiffx and application/pdf or the Print System doesn't know even when its own Printer Driver creates the document, such as Windows? For Microsoft UPnP PrintBasic, we had to define a special default value, so that the Microsoft Print System could supply a value (UPnP REQUIRES that "document-format" be supplied). Or should we change this back to SHOULD as in IPP/1.1 and as we did for "ippfax-uif-profiles" (see next section)? Or should we still REQUIRE it, but allow the Sender to submit 'application/octet-stream'? (Currently, we do not allow 'application/octet-stream').

7.3.1.2 ippfax-uif-profiles (1setOf type2 keyword) operation attribute 28

Eliminated the 'image/tiff' MIME type application and profile parameters. The Internet FAX WG is removing them because of interoperability with existing TIFF6 readers.

7.4 Job Template Attributes 29

Added Table 8 to show all Job Template attributes from all our extension documents.

Table 8: ISSUE 02: The Sender supply and the Receiver support columns have a lot of "MUST NOT". Instead of not allowing these attributes at all, how about a MAY but restricted to the obvious default values, i.e., "copies"=1, "number-up"=1, "job-priority"=50, "insert-sheet"='none', x-image-shift=0, etc. Otherwise, there is some interworking problems with a client that supplies these attributes with their obvious default values.

7.4.1 media (type2 keyword | name(MAX)) Job Template attribute ([RFC2911] section 4.2.11) 31

7.4.1.1 media-supported and media-ready Job Template Printer attributes 31

7.4.2 printer-resolution (resolution) Job Template attribute ([RFC2911] section 4.2.12)..... 32

Added that the Printer MUST color by document-format and Effective URL Context as agreed.

7.4.2.1 printer-resolution-supported Job Template Printer attribute 32

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7.8 Notification Event Conformance Requirements..... 34

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8 IPP Implementation of other operations..... 34

8.1 Operation Conformance Requirements 35

Added Table 11 and 12 to show all operations including all our IPP extensions.

8.2 Cancel-Job operation ([RFC2911] section 3.3.3) 37

8.3 Get-Job-Attributes and Get-Jobs operations ([RFC2911 sections 3.3.4 and 3.2.6) 38

8.4 Enable-Printer and Disable-Printer operations [ipp-admin-ops] 38

Added this section to indicate how they work if implemented.

9 Security considerations..... 39

9.1 Privacy..... 39

9.2 uri-authentication-supported (1setOf type2 keyword) ([RFC2911] section 4.4.2)..... 40

Added Table 13 and 14 to show Authentication keywords and conformance.

Table 13: ISSUE 03: What do we mean by “public mode” in section **Error! Reference source not found.**? If we mean TLS without client authentication, then **Error! Reference source not found.** needs to allow ‘none’, doesn’t it?

9.3 uri-security-supported (1setOf type2 keyword) ([RFC2911] section 4.4.3) 41

Added Table 15 and 16 to show Security keywords and conformance

9.4 Using IPPFAX with TLS..... 42

Added this section to clarify how TLS MUST be used by the client as agreed.

ISSUE 04: OK that we deleted the “ippfax-sending-user-certificate-uri (uri) operation/Job Description attribute? The client MUST pass the certificate, whether by value or by reference in the TLS record layer.

9.5 Access control..... 42

ISSUE 03 (repeat): What do we mean by “public mode”. If we mean TLS without client authentication, then **Error! Reference source not found.** needs to allow ‘none’, doesn’t it?

9.6 Reduced feature set 43

10 Gateways to other systems 43

Deleted all Off-Ramp and On-Ramp attributes, as agreed.

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10.2 On-Ramps 43

11 Attribute Syntaxes 43

12 Status codes 44

12.1 client-error-bad-request (0x0400) [RFC2911 section 13.1.4.1] 44

Extended as a SHOULD (rather than a MUST) to return attributes that the client omitted by mistake, so more compatible with existing IPP Printers.

13 Conformance Requirements 44

Aligned with the rest of the document.

14 IPPFAX URL Scheme 45

Added this section.

14.1 IPPFAX URL Scheme Applicability and Intended Usage 45

14.2 IPPFAX URL Scheme Associated IPPFAX Port 45

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14.6 IPPFAX URL Examples 46

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15 IANA Considerations 47

Added the attributes to be registered like our other documents.

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17 Appendix C: Generic Directory Schema for an IPPFAX Receiver 48

Added Table 18 to more clearly show conformance.

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Added this section as agreed.

20 Revision History (to be removed when standard is approved) 54