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Charter for the **PWG Server-to-Device Printing Protocol Working Group**

Background

10 Consciously, and with prudent respect for project manageability and achievable goals, the first version of
11 IPP was limited to defining a new application level printing protocol that supports the following core
12 functions:

- 13
- 14 - for a user to find out about a printer's capabilities
- 15 - for a user to submit print jobs to a printer or print server
- 16 - for a user to find out the status of a printer or a print job
- 17 - for a user to modify the state of a submitted print job (i.e. Cancel)
- 18

19 Parallel to the IPP development effort, a separate PWG working group (JMP) developed the PWG Job MIB
20 for use in management and accounting within a standards based print framework. It is not so significant that
21 a protocol was defined to facilitate accounting via SNMP, but that a set of job related attributes were
22 closely correlated between IPP and JMP. This fosters a single view of data throughout the printing system,
23 which leads to efficiencies and prevents redundancy.

24

25 Multiple protocols and data representations are costly throughout the printing system in terms of storage,
26 performance, maintenance and interoperability. Storage and performance are particularly crucial to
27 implementations where interpreting, real-time marking, network communications and management activities
28 all share the constrained resources within an embedded controller. This issue was addressed in the IPP
29 charter where, in reference to the lack of a standard printing protocol the charter states – *“This means that*
30 *printer vendors have to implement and support a number of different protocols and protocol variants.”*
31

Charter Description

32 In light of IPP, the context in which we seek a standard Server-to-Device printing protocol is:

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- 34
- 35 A. Some class of low cost devices will not be robust enough to implement the full IPP print model and
- 36 transport as currently defined.
- 37 B. Every printer attachment does not support TCP/IP, so the mapping of IPP to HTTP cannot be
- 38 universally supported.
- 39 C. Server based printing mandates tighter control and some additional requirements such as:
 - 40 • Notifications
 - 41 ➤ Although notification also spans IPPv1, SDP may require a more granular set of notification
 - 42 events (see *Notification Requirements*).
 - 43 • If a connection or write operation fails, the server needs to distinguish between “down” vs.
 - 44 “busy”.
 - 45 • On successful operations, the server needs to know that the bytes have made it to their final
 - 46 destination – not simply that they have successfully been delivered via the communications
 - 47 channel.

48 D. Even embedded IPP implementations may find that they are, simultaneously, attached to a separate,
49 independent print server and are, therefore, obliged to implement both IPP and SDP, making it
50 desirable for these protocols to be directly related.

51

52 The goal of this working group is to extend the existing IPP model and semantics to address specific,
53 unmet, Server-to-Device (SDP) requirements (as outlined in the SDP requirements document) and to do so
54 while preserving as much compatibility as possible with IPPv1 operations and the IPP/JMP attribute
55 definitions.

56 **FAQ**

57 ***Why not just use TIPSII as the SDP***

58 The Internet Printing Protocol (IPP) working group charter begins with the statement “*There is currently no*
59 *universal standard for printing*”. This statement was made in January of 1997 when, indeed, a standard for
60 printing from Server-to-Device (IEEE1284.1 or *TIPSII*) was in place. One approach to addressing the IPP
61 charter might have been to acknowledge IEEE1284.1 by mapping it to a higher level syntax (such as XML)
62 and onto HTTP for delivery over the Internet. However, the IPP model and protocol were forged, from
63 scratch, with guidance from the DPA, into what is now known as the IPPv1 specification. While it may be
64 appropriate to utilize portions of the TIPSII specification, such as the communications model and packet
65 structure, the mapping between IPP and TIPSII operations and attributes is neither trivial nor 1-to-1, making
66 a simple substitution of IEEE1284.1 less than ideal for the SDP protocol.

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68 ***Additional capabilities that may be examined for future versions***

69 - security features for authentication, authorization, and policies

70

71 ***Subjects currently out of scope for this working group***

72 - property rights

73 - fax input

74 - scanning

75

76 ***Deliverables and Milestones***

77

78 • Done - Mailing list and archive

79

80 • Done - Submit proposal

81

82 • July 1998 - Exit proposal

83

84 • August 1998 - Submit draft

85

86 • November 1998 - Exit draft

87

88 • December 1998 - Prototypes

89

90 • TBD...

91

92 **Current Drafts**

93

94 SDP Proposal – Roger deBry, Harry Lewis... <sdp-proposal.pdf>

95

96 **Related Submissions**

97

98 Randy Turner...<ipptcp.pdf>

99 Don Wright... <draft-ipp-pwg-tipsi-mapping-01>

100

101 **Planned RFCs**

102

103 NONE. The PWG SDP project is not targeted as an IETF charter. This standard will be hosted, managed
104 and maintained by the PWG, itself.

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106 **Officers**

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- Editor(s):

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112 **Mailing List Information:**

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- General Discussion: <sdp@pwg.org>

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- To Subscribe: <sdp-request@pwg.org>

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- Archive: <ftp://ftp.pwg.org/pub/pwg/sdp/>

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