

Charter of the PWG

Cloud Imaging Working Group (WG) Project

Status: PWG Approved

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<ftp://ftp.pwg.org/pub/pwg/cloud/charter/ch-cloud-charter-20120126.pdf>

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Problem Statement:

Cloud-based applications and solutions are increasingly common, and Cloud-based printing, scanning, and facsimile (collectively called "Cloud Imaging") are emerging in several different forms. Adopting standard protocols and schemas now will help interoperability, speed adoption, and address privacy and security issues involved in Cloud Imaging.

A basic functional model including a Client, Cloud Print Provider, Cloud Print Manager, and Printer was developed at five previous Cloud Printing BOF sessions. This model revealed several new requirements beyond the existing PWG Semantic Model including registration, enumeration/selection, use of late transforms to preserve fidelity, additional notification events, strict privacy and security policies, and reliable logging.

The goal of the Cloud Imaging project is to develop the following new documents to support Cloud-based printing and multifunction imaging using the PWG Semantic Model:

- (a) Mapping of MSPS, PPD, and JDF to/from PWG Print Job Ticket and PWG Print Service (CLOUDMAP - wd-cloudmap10-yyyymmdd) - define a PWG Best Practice document that includes:
 - (1) a recommended mapping of PWG Print Job Ticket and PWG Print Service (capabilities and selected description and status elements) [PJT] to and from elements in the Microsoft Print Schema Specification [MSPS], Adobe Postscript Printer Description [PPD], and CIP4 Job Definition Format [JDF]; and
 - (2) a recommended common subset of job ticket elements (directly or by reference to [PJT]) for simple print use cases based on current Cloud Print implementations;
- (b) Cloud Imaging Requirements and Model (CLOUDMODEL - wd-cloudmodel10-yyyymmdd) - define the reference model, terminology, and requirements for Cloud Imaging;
- (c) Cloud Print Internet Printing Protocol Binding (CLOUDPRINTIPP - wd-cloudprintipp10-yyyymmdd) - define an IPP binding of Cloud Printing;

44 (d) Cloud Print SOAP Binding (CLOUDPRINTSOAP - wd-cloudprintsoap10-yyyymmdd) - define a SOAP
45 binding of Cloud Printing with associated XML schemas/WSDL definitions and an equivalent informative
46 REST binding;

47
48 (e) Cloud Multifunction Internet Printing Protocol Binding (CLOUDMFDIPP - wd-cloudmfdipp10-
49 yyyymmdd) - define an IPP binding of remaining Cloud Imaging services; and
50

51 (f) Cloud Multifunction SOAP Binding (CLOUDMFDSOAP - wd-cloudmfdssoap10-yyyymmdd) - define a
52 SOAP binding of remaining Cloud Imaging with associated XML schemas/WSDL definitions and
53 equivalent informative REST bindings.
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55 **Out-of-scope:**

- 56 • OOS-1 Defining Cloud federation interfaces and associated protocols and technologies.
- 57 • OOS-2 Defining the interface between the Cloud Imaging Manager and Imaging Device, specifically the
58 interface for device and job status and job submission.
- 59 • OOS-3 Defining new protocols for authentication, authorization, and access control (AAA), enumeration,
60 transport, notification, or device management.
- 61 • OOS-4 Defining new document file formats.
- 62 • OOS-5 Defining new abstract job tickets.
63

64 **Objectives:**

- 65 • OBJ-1 Generate a PWG Best Practices document that maps the elements in the Microsoft Print Schema
66 Specification [MSPS], Adobe Postscript Printer Description [PPD], and CIP4 Job Definition Format
67 [JDF] to and from the PWG Print Job Ticket and Print Service [PJT] and the equivalent XML Schema
68 elements.
- 69 • OBJ-2 Develop a requirements and model document for Cloud Imaging based on the previous BOF
70 discussions, including registration, enumeration/selection, the concept of late transforms to preserve
71 fidelity, additional notification events, strict privacy and security policies, and logging.
- 72 • OBJ-3 Develop IPP binding documents for Cloud Print and for Cloud Multifunction services.
- 73 • OBJ-4 Develop SOAP binding documents for Cloud Print and for Cloud Multifunction services with
74 associated XML schemas/WSDL definitions and equivalent informative REST bindings.
- 75 • OBJ-5 The model and bindings should be compatible with existing cloud computing infrastructure.
- 76 • OBJ-6 The model and bindings should be scalable from consumer-electronics clients to high-end servers.
- 77 • OBJ-7 The model and bindings should define requirements for document formats and job tickets to ensure
78 imaging fidelity and interoperability.
- 79 • OBJ-8 The model and bindings should be compatible with generic imaging clients for common operating
80 systems.
81

82 **Milestones:**

83 **Charter Stage:**

- 84 • CH-1 Initial working draft of Cloud Imaging Charter – March 2011 – DONE
- 85 • CH-2 Stable working draft of Cloud Imaging Charter – March 2011 - DONE
- 86 • CH-3 PWG Approval via Formal Vote of Cloud Imaging Charter – June 2011 – DONE
- 87 • CH-4 Update Charter and submit for PWG Steering Committee Approval – January 2012 – DONE

88 **Definition Stage:**

- 89 • CLOUDMAP-1 Initial working draft of Mapping of MSPS, PPD, and JDF to/from PWG Print Job
90 Ticket and PWG Print Service – Q4 2011

- 91 • CLOUDMAP-2 PWG Last Call of Mapping of MSPS, PPD, and JDF to/from PWG Print Job Ticket
- 92 and PWG Print Service – Q1 2012
- 93 • CLOUDMODEL-1 Initial working draft of Cloud Imaging Requirements and Model – Q2 2012
- 94 • CLOUDPRINTIPP-1 Initial working draft of Cloud Print IPP Binding - Q3 2012
- 95 • CLOUDPRINTSOAP-1 Initial working draft of Cloud Print SOAP Binding - Q3 2012
- 96 • CLOUDMODEL-2 PWG Last Call of Cloud Imaging Requirements and Model - Q4 2012
- 97 • CLOUDPRINTIPP-2 Prototype working draft of Cloud Print IPP Binding - Q4 2012
- 98 • CLOUDPRINTSOAP-2 Prototype working draft of Cloud Print SOAP Binding - Q4 2012
- 99 • CLOUDPRINTIPP-3 PWG Last Call of Cloud Print IPP Binding - Q1 2013
- 100 • CLOUDPRINTSOAP-3 PWG Last Call of Cloud Print SOAP Binding - Q1 2013
- 101 • CLOUDMFDIPP-1 Initial working draft of Cloud Multifunction IPP Binding - TBD
- 102 • CLOUDMFDSOAP-1 Initial working draft of Cloud Multifunction SOAP Binding - TBD
- 103 • CLOUDMFDIPP-2 Prototype working draft of Cloud Multifunction IPP Binding - TBD
- 104 • CLOUDMFDSOAP-2 Prototype working draft of Cloud Multifunction SOAP Binding - TBD
- 105 • CLOUDMFDIPP-3 PWG Last Call of Cloud Multifunction IPP Binding - TBD
- 106 • CLOUDMFDSOAP-3 PWG Last Call of Cloud Multifunction SOAP Binding - TBD

107 **Implementation Stage:**

- 108 • INTEROP-1 Interoperability testing of IPP print implementations – Q2 2013
- 109 • INTEROP-2 Interoperability testing of SOAP print implementations – Q3 2013
- 110 • INTEROP-3 Interoperability testing of IPP Multifunction implementations – TBD
- 111 • INTEROP-4 Interoperability testing of SOAP Multifunction implementations – TBD

113 **References:**

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- 120 [MSPS] Microsoft, "Microsoft Print Schema Specification Version 1.0", May 2007,
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- 129 4.3", Technical Note #5003, February 1996.
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- 132 [TN5645] Adobe Systems Incorporated, "Update to PPD Specification Version 4.3", Technical Note
- 133 #5645, April 1997,
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