Title of Document
(Acronym)

Status: Initial

Abstract: This white paper proposes something really interesting. Provide an abstract for your white paper here.

This is a PWG White Paper. For a definition of a "PWG White Paper", see:

<https://ftp.pwg.org/pub/pwg/general/process/pwg-process-4.pdf>

This white paper is available electronically at:

https://ftp.pwg.org/pub/pwg/general/templates/white-template.docx

https://ftp.pwg.org/pub/pwg/GROUP/wd/wd-author-title-YYYYMMDD.docx

Copyright © YYYY The Printer Working Group. All rights reserved.

Title: *Title of Document (Acronym)*

The material contained herein is not a license, either expressed or implied, to any IPR owned or controlled by any of the authors or developers of this material or the Printer Working Group. The material contained herein is provided on an “AS IS” basis and to the maximum extent permitted by applicable law, this material is provided AS IS AND WITH ALL FAULTS, and the authors and developers of this material and the Printer Working Group and its members hereby disclaim all warranties and conditions, either expressed, implied or statutory, including, but not limited to, any (if any) implied warranties that the use of the information herein will not infringe any rights or any implied warranties of merchantability or fitness for a particular purpose.

Table of Contents

1. Introduction 6

2. Terminology 6

2.1 Conformance Terminology 6

2.2 Other Terminology 7

2.3 Acronyms and Organizations 7

3. Requirements 8

3.1 Rationale for Title of Document 8

3.2 Use Cases 8

3.3 Exceptions 8

3.4 Out of Scope 8

3.5 Design Requirements 8

4. First Specification Section 8

5. Conformance Requirements 9

6. Internationalization Considerations 9

7. Security Considerations 9

8. IANA Considerations 9

9. References 9

9.1 Normative References 9

9.2 Informative References 9

10. Authors' Addresses 9

11. Change History 11

11.1 Month, DD, YYYY 11

List of Figures

Figure 1 - An Example Figure 4

List of Tables

Table 1 - An Example Table 4

1. Introduction

Provide an introduction for the document.

Figure 1 - An Example Figure

Table 1 - An Example Table

|  |  |  |
| --- | --- | --- |
| Keyword | Description | Conformance |
| One | The first keyword | REQUIRED |
| Two | The second keyword | OPTIONAL |

1. Terminology
	1. Conformance Terminology

Capitalized terms, such as MUST, MUST NOT, RECOMMENDED, REQUIRED, SHOULD, SHOULD NOT, MAY, and OPTIONAL, have special meaning relating to conformance as defined in Key words for use in RFCs to Indicate Requirement Levels [BCP14]. This specification defines the following additional capitalized conformance terms:

*CONDITIONALLY REQUIRED*: A MUST conformance requirement that applies only when a specified condition is true.

*DEPRECATED*: A SHOULD NOT conformance requirement for previously defined and approved protocol elements that are planned to be removed from use.

*OBSOLETE*: A MUST NOT conformance requirement for previously defined and approved protocol elements that have been removed from use.

* 1. Printing Terminology

The following printing terms are used in this document:

*Administrator*: An End User who is also authorized to manage all aspects of an Output Device or Printer, including creating the Printer instances and controlling the authorization of other End Users and Operators [RFC2567].

*Document*: An object created and managed by a Printer that contains the description, processing, and status information. A Document object may have attached data and is bound to a single Job [PWG5100.5].

*End User*: An End User is a person or software process that is authorized to perform basic printing functions, including finding/locating a Printer, creating a local instance of a Printer, viewing Printer status, viewing Printer capabilities, submitting a Print Job, viewing Print Job status, and altering the attributes of a Print Job [RFC2567].

*Impression*: An Impression is the content imposed upon one side of a Media Sheet by a marking engine, independent of the number of times that the sheet side passes any marker. An Impression contains one or more Input Pages that are imposed (scaled, translated, and/or rotated) during processing of the Document data [STD92].

*Input Page*: An Input Page is a page according to the definition of "pages" in the language used to express the Document data [STD92].

*Job*: An object created and managed by a Printer that contains description, processing, and status information. The Job also contains zero or more Document objects [STD92].

*Job Creation Operation*: A Job Creation operation is any operation that causes the creation of a Job object, e.g., the Create-Job, Print-Job, and Print-URI operations defined in this document [STD92].

*Logical Device*: a print server, software service, or gateway that processes jobs and either forwards or stores the processed Job or uses one or more Physical Devices to render output [STD92].

*Media Sheet*: A Media Sheet is a single instance of a medium, whether printing on one or both sides of the medium. Media Sheets also include sections of roll media [STD92].

*Operator*: An Operator is an End User that also has special rights on the Output Device or Printer. The Operator typically monitors the status of the Printer and also manages and controls the Jobs at the Output Device [RFC2567]. The Operator is allowed to query and control the Printer, Jobs, and Documents based on site policy.

*Output Device*: a single Logical or Physical Device [STD92].

*Physical Device*: a hardware implementation of an endpoint device, e.g., a marking engine, a fax modem, etc. [STD92]

*Set*: A Set is a logical boundary between the delivered Media Sheets of a printed Job. For example, in the case of a ten-page single Document with collated pages and a request for 50 copies, each of the 50 printed copies of the Document constitutes a Set. If the pages were uncollated, then 50 copies of each of the individual pages within the Document would represent each Set. Finishing processes operate on Sets [STD92].

*Terminating State*: The final state for a Job or other object is called its Terminating State. For example, the 'aborted', 'canceled', and 'completed' Job states are Terminating States [STD92].

* 1. Protocol Role Terminology

The following protocol roles are defined to specify unambiguous conformance requirements:

*Client*: Initiator of outgoing connections and sender of outgoing operation requests (Hypertext Transfer Protocol -- HTTP/1.1 [STD99] User Agent) [STD92].

*Printer*: Listener for incoming connections and receiver of incoming operation requests (Hypertext Transfer Protocol -- HTTP/1.1 [STD99] Server) that represents one or more Physical Devices or a Logical Device [STD92].

* 1. Other Terminology

This specification defines the following terms:

*Capitalized Term In Italics*: definition of the term with any references as appropriate.

* 1. Acronyms and Organizations

This specification defines the following acronyms and organizations:

*IANA*: Internet Assigned Numbers Authority, <https://www.iana.org/>

*IETF*: Internet Engineering Task Force, <https://www.ietf.org/>

*ISO*: International Organization for Standardization, <https://www.iso.org/>

*PWG*: Printer Working Group, <https://www.pwg.org/>

1. Rationale

Provide a rationale for the white paper.

* 1. Use Cases

Provide use cases for the white paper in subsections using the casual use case format.

* 1. Exceptions

The following subsections define exceptions in addition to those defined in the Internet Printing Protocol/1.1 [STD92].

Provide exceptions to the use cases using the casual use case format.

* 1. Out of Scope

The following are considered out of scope for this white paper:

1. Definition of foo
2. Protocols for bar
3. Requirements for bla
	1. Design Requirements

The design requirements for this white paper are:

1. Define attributes for foo and bar
2. Define operations for bla

The design recommendations for this white paper are:

1. Support additional "nice to have" use cases
2. Technical Solutions/Approaches

Provide possible technical solutions/approaches in this section. Include pros and cons for each technical solution or approach. Include references to specific protocols and/or data models when appropriate. Include mapping and gateway considerations when appropriate.

1. Internationalization Considerations

*Note: The following boilerplate text may not be sufficient for all purposes. In a standards-track working draft we include conformance requirements (see the wd-template file for details).*

For interoperability and basic support for multiple languages, conforming implementations support:

1. The Universal Character Set (UCS) Transformation Format -- 8 bit (UTF-8) [STD63] encoding of Unicode [UNICODE] [ISO10646]; and
2. The Unicode Format for Network Interchange [RFC5198] which requires transmission of well-formed UTF-8 strings and recommends transmission of normalized UTF-8 strings in Normalization Form C (NFC) [UAX15].

Unicode NFC is defined as the result of performing Canonical Decomposition (into base characters and combining marks) followed by Canonical Composition (into canonical composed characters wherever Unicode has assigned them).

1. Security and Privacy Considerations

Provide security and privacy considerations for this white paper.

1. References

[BCP14] S. Bradner, "Key words for use in RFCs to Indicate Requirement Levels", RFC 2119/BCP 14, March 1997, <https://datatracker.ietf.org/doc/html/rfc2119>

[ISO10646] "Information technology -- Universal Coded Character Set (UCS)", ISO/IEC 10646:2014

[PWG5100.5] M. Sweet, "IPP Document Object v1.1 (DOCOBJECT)", PWG 5100.5-2019, May 2019, <https://ftp.pwg.org/pub/pwg/candidates/cs-ippdocobject11-20190521-5100.5.pdf>

[RFC2567] F.D. Wright, "Design Goals for an Internet Printing Protocol", RFC 2567, April 1999, <https://datatracker.ietf.org/doc/html/rfc2567>

[RFC5198] J. Klensin, M. Padlipsky, "Unicode Format for Network Interchange", RFC 5198, March 2008, <https://datatracker.ietf.org/doc/html/rfc5198>

[STD63] F. Yergeau, "UTF-8, a transformation format of ISO 10646", RFC 3629/STD 63, November 2003, <https://datatracker.ietf.org/doc/html/rfc3629>

[STD92] M. Sweet, I. McDonald, "Internet Printing Protocol/1.1", RFC 8010/RFC 8011/STD 92, June 2018, <https://datatracker.ietf.org/doc/html/rfc8010>, <https://datatracker.ietf.org/doc/html/rfc8011>

[STD99] R. Fielding, J. Reschke, "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing", RFC 9112/STD 99, June 2014, <https://datatracker.ietf.org/doc/html/rfc9112>

[UAX15] M. Davis, M. Duerst, "Unicode Normalization Forms", Unicode Standard Annex 15, August 2021, <https://www.unicode.org/reports/tr15>

[UNICODE] Unicode Consortium, "Unicode Standard", Version 14.0.0, September 2021, <https://www.unicode.org/versions/Unicode14.0.0/>

[REFERENCE] F. Last author list or standards body, "Title of referenced document", Document Number, Month YYYY, URL (if any)

1. Authors

Primary authors (using Address style):

John Doe

Example Company

The authors would also like to thank the following individuals for their contributions to this white paper:

Turanga Leela - Planet Express

Zapp Brannigan - Democratic Order of Planets

1. Change History

This section will be removed when this document is published.

* 1. Month, DD, YYYY

Initial revision.