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The Printer Working Group

PWG Policy

Definition of the Standards Development Process



Version 2.0
April 2108, 2004 |

The Printer Working Group

PWG Policy Definition of the Standards Development Process

Version 2.0
April 2108, 2004

Abstract: This document defines the standards development process that guides and controls the work of the Printer Working Group, an organization developing open standards for the Print, Imaging, MFP and related Services industries. This document organizes the flow of standards creation from Brainstorming, Requirements gathering and Charter definition through Working Drafts, Candidate Standards and Standards. Herein are the guidelines for conducting Last Call, assuring interoperability and establishing levels of Formal Approval. PWG Process v2.0 builds on the original PWG Process document but has been rewritten for greater clarity. Sections relating to Intellectual Property and Confidentiality are completely unaltered. This document defines PWG policy and process and does not define an industry standard.

This version of the PWG Standards Development Process is available electronically at:
<ftp://ftp.pwg.org/pub/pwg/standards/process/pwg-process20-20040421.pdf>, .doc

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84 and support services. The IEEE Industry Standards and Technology Organization member organizations include
85 printer manufacturers, print server developers, operating system providers, network operating systems providers,
86 network connectivity vendors, and print management application developers. The IEEE-ISTO provides a forum not
87 only to develop standards, but also to facilitate activities that support the implementation and acceptance of
88 standards in the marketplace. The organization is affiliated with the IEEE (<http://www.ieee.org/>) and the IEEE
89 Standards Association (<http://standards.ieee.org/>).

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91 About the Printer Working Group

92 The Printer Working Group (or PWG) is a Program of the IEEE-ISTO. All references to the PWG in this document
93 implicitly mean "The Printer Working Group, a Program of the IEEE ISTO." The PWG is chartered to make printers
94 and the applications and operating systems supporting them work together better. In order to meet this objective, the
95 PWG will document the results of their work as open standards that define print related protocols, interfaces, data
96 models, procedures and conventions. Printer manufacturers and vendors of printer related software would benefit
97 from the interoperability provided by voluntary conformance to these standards.

98 In general, a PWG standard is a specification that is stable, well understood, and is technically competent, has
99 multiple, independent and interoperable implementations with substantial operational experience, and enjoys
100 significant public support.

101 Contact information:

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103 c/o The IEEE Industry Standards and Technology Organization
104 445 Hoes Lane
105 Piscataway, NJ 08854
106 USA

107
108 PWG Web Page: <http://www.pwg.org>

109 Instructions on subscribing ~~to PWG~~to [PWG](http://www.pwg.org) mailing lists can be found at the following link:

110 <http://www.pwg.org/mailhelp.html>

111
112 Members of the PWG and interested parties are encouraged to join the PWG and PWG WG Mailing List in order to
113 participate in discussions, clarifications and review of the WG product.

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207 1 Introduction

208 This document establishes the process that is followed as the Printer Working Group develops open industry
 209 standards. The Printer Working Group (or PWG) is a Program of the IEEE Industry Standards and Technology
 210 Organization (ISTO) and all references to the PWG in this document implicitly mean “The Printer Working Group, a
 211 Program of the IEEE ISTO.” The PWG is an alliance among printer manufacturers, print server developers, operating
 212 system providers, network operating systems providers, network connectivity vendors, print and print management
 213 application developers chartered to make printers and the applications and operating systems supporting them work
 214 together better. In order to meet this objective, the PWG will document the results of their work as open standards
 215 that define print related protocols, interfaces, procedures and conventions. Printer manufacturers, vendors of printer
 216 related software and the consuming public would benefit from the interoperability provided by voluntary conformance
 217 to these standards.

218
 219 A PWG standard is a specification that is stable, well understood, technically competent and has multiple,
 220 independent implementations with substantial operational experience, demonstrated interoperability and significant
 221 public support. The PWG may issue a standard as a PWG standard and/or when appropriate submit the standard to
 222 other standards organizations, such as the IETF, ISO, ITU, W3C, IEEE, or ECMA. In developing a standard, a
 223 working group of the PWG may define durable documents such as WSDL, Schema or common industry semantics
 224 that need to have well known, persistent filenames and file paths.

225
 226 This process document establishes

- 227 1. The ~~phases/stages, or maturity levels~~ a PWG standard's project will go through from Charter and
 228 Requirements through Drafts, Candidates and Standard to the final, Maintenance ~~phases/stage~~ of an
 229 established standard.
- 230 2. Working documents naming and versioning
- 231 3. Standards naming and numbering

232
 233 If this policy document is updated, the new version is subject to Last Call and Formal Approval as described, herein.
 234 As long as section 10, **Intellectual Property and Confidentiality**, is not modified, the new version may be approved
 235 through the Formal Approval process described in section 8.3.1. If section 10 is modified, 100% of all PWG
 236 members must approve the new document (abstentions/non-votes are not allowed).

237 2 Organization of the PWG

238 The Printer Working Group is composed of representatives from printer manufacturers, print server developers,
 239 operating system providers, network operating system providers, network connectivity vendors, and print and print
 240 management application developers. Member organizations are those companies, individuals or other groups (i.e. a
 241 university) that have agreed to participate and operate under the processes and procedures of the IEEE-ISTO by-
 242 laws, the Printer Working Group Program Participation Agreement and this document and have paid the annual
 243 assessment. Multiple individuals employed by the same company or other organization cannot join the PWG as
 244 individual members. Associates or affiliates of member organizations which are beneficially controlled or owned by
 245 said member organization with more than fifty percent (50%) of the voting stock or equity shall not be considered a
 246 separate entity and are not eligible for separate membership in the PWG. The annual assessment is set each year
 247 by the PWG itself.

248

2.1 PWG Officers

The PWG has a Chair position responsible for organizing the overall agenda of the PWG. The PWG chair is elected in odd numbered years by a simple majority of the PWG members to a two-year term of office that begins on September 1st. Responsibilities of the PWG chair include creating working groups, appointing working group chairs, assuring that working groups maintain adequate leadership, making local arrangements for PWG meetings (this may be delegated as appropriate), setting the high level PWG agenda, chairing the PWG plenary session, ensuring that the PWG web and FTP site are maintained, and assisting working group chairs to accomplish their tasks. The PWG Chair must be a representative of a PWG Member Organization. The PWG Chair is an ex officio member of all working groups.

The PWG Vice Chair is elected in odd numbered years by a simple majority of the PWG members to a two-year term of office, beginning September 1st. The Vice Chair's responsibilities are to act in the absence of the chair and provide assistance to the Chair in carrying out his or her role, as required. The PWG Vice Chair must be a representative of a PWG Member Organization. The PWG Vice Chair is an ex officio member of all working groups.

The PWG Secretary is elected in odd numbered years to a two-year term of office by a simple majority of the PWG members. It is the Secretary's responsibility to record and distribute the minutes of all PWG plenary sessions and other meetings, as required, to support the PWG chair. The PWG Secretary must be a representative of a PWG Member Organization. The PWG Secretary is responsible, in cooperation with the IEEE ISTO, for managing number blocks for standards naming and maintaining a PWG Member Organization roster including contact and company profile information, including logo, as it pertains to representation on the PWG web site. The PWG Secretary is the only member authorized to install submissions or make changes to the "standards", "candidates" or "informational" top-level permanent file directories of the PWG.

The PWG Steering Committee is composed of the PWG Chair, Vice Chair, Secretary, and chairs of all active working groups. The Steering Committee shall meet upon the call of the PWG Chair or by a majority of its members to discuss matters of concern of the PWG. Where matters come to a vote in the Steering Committee, decisions are made by simple majority of the entire committee (abstentions/non-votes are counted as no votes), with one vote per person.

2.2 Working Group Officers

Under the PWG Chair are a number of working groups (WG), which are chartered for the purpose of developing a specific standard. Working groups are chartered as required to address specific areas of standardization. A working group is considered active until it satisfies its charter or is otherwise terminated by the Working Group Chair with the agreement of the Steering Committee.

The PWG Chair appoints the Chair of a WG, with approval (simple majority) at a PWG plenary. The WG Chair's term is indefinite and would normally extend through the period of time during which there is active maintenance on the standard(s) developed by the working group. The Working Group Chair must be a representative of a PWG Member Organization. The working group Chair is responsible for appointing a Vice Chair and Secretary for the WG, creating the WG Charter, setting the agenda for meetings of the WG, chairing WG meetings, appointing editors for WG documents, driving the work of the WG to completion, and reporting status of the WG at PWG plenary sessions.

The WG Chair appoints the Vice Chair of a WG, with approval (simple majority) of the WG. The WG Vice Chair's term is indefinite. The Vice Chair acts in the absence of the Chair and assists, as appropriate, in carrying out the responsibilities of the Chair.

The WG Chair appoints the Secretary for a WG, with approval (simple majority) of the WG. The term of office is indefinite. The responsibilities of the WG Secretary are to record and distribute minutes of working group meetings and to record attendance for members of that working group.

298 **2.3 PWG Meetings**

299 The annual face-to-face meeting schedule for the PWG is set in October of each year. As a guideline, it is common
 300 to hold face-to-face meetings every 6 to 10 weeks with phone and web based conferencing during the interim. Face-
 301 to-face meetings are to be distributed geographically to try and normalize the travel burden among members.
 302 Meeting schedule and locations are determined through a proposal / consensus process and no other specific
 303 process or guarantees are implied. Meeting location details are to be published at least 4 weeks in advance of
 304 meetings. New documents must not be introduced under any circumstances less than 1 week prior to a face-to-face
 305 as this only leads to confusion and ineffective meeting results.

306
 307 Non-standards related administrative and procedural decisions made at PWG administrative, business, or plenary
 308 meetings require a simple majority, 1 vote per member organization.

309
 310 Dial-up and web conference details, agenda and reference materials are to be published at least 48 hours in
 311 advance when work is being conducted via remote conferencing.
 312

313 **2.4 PWG Communications Infrastructure**

314 The PWG will maintain

- 315 1. A PWG web site <http://www.pwg.org> where PWG working group information, meeting schedules and
 316 document links and other pertinent information may be found.
- 317 2. A PWG ftp site <ftp://ftp.pwg.org> where PWG working drafts, standards, procedures, schema, templates and
 318 other useful and necessary documents may be accessed.
- 319 3. An e-mail reflector, including archive, for each active project. Instructions for subscribing to the PWG mailing
 320 lists can be found at the following link: <http://www.pwg.org/mailhelp.html>
 321

322 **3 PWG Standards development and maintenance**

323 There are 3 main phases to standards development in the PWG – Charter, Development and Maintenance ([Table](#)
 324 [1Table-4](#)). These phases are a guideline to the activities and types of documents a working group should expect to
 325 encounter. There are no specific exit criteria from these phases. Exit criteria apply to PWG [sStandards-track](#)
 326 documents and are outlined in section 4.
 327

328 **Table 1 - Three Phases to developing a PWG Standard**

Phase	Activities in this Stage	Internal Documents	PWG Standards Documents
Charter	Identify need Brainstorm Develop Charter Gather Requirements	White Papers	Charter Requirements Statement Preliminary Working Draft
Development	Develop PWG Working Drafts Prototype Promote to Candidate Standard Demonstrate Interoperability Promote to PWG Standard	White Papers Proposals Developer Guides Interop Test Plans Interop Test Results	PWG Working Drafts Candidate Standards Supporting durables such as WSDL, Schema
Maintenance	Maintain PWG Standard	Errata	Standard

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	Maintain PWG Candidate Standard	Registration of new keywords, enums	Supporting durables
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330 4 Formal PWG standards-track process

331 Standards development ~~consists of~~ ~~guided, largely, by~~ the progression of documents used to define and articulate
 332 ~~the standards.~~ ~~PWG project~~ Formal documents consist of the Charter, a set of Requirements, Working Drafts,
 333 Candidate Standards and, ~~ultimately,~~ the Standard, itself. ~~Due to their highly influential nature, informative~~
 334 ~~documentation of Best Practice is also treated as a formal document.~~ Publication of ~~completed these formal~~ PWG
 335 ~~Candidate Standards, Standards and Best Practice standards-track~~ documents requires Last Call and/or Formal
 336 Approval ~~(vote) by the membership of the PWG~~ as described in Section ~~0 8~~. ~~Technical briefs and proposals relating~~
 337 ~~to a standard, the standards process may be augmented by a set of informal technical briefs and proposals reading~~
 338 ~~on the standard. While helpful and encouraged, are these are~~ not treated as formal documents and do not require
 339 ~~Last Call or~~ Formal Approval. ~~The life cycle and organization of PWG s~~Standards-track ~~and other project~~
 340 ~~documents/publications and the criteria for exit is~~are defined below. ~~Because the synchronization of Standard version,~~
 341 ~~standard document maturity, document naming, support file namespace and file path names can be quite complex, a~~
 342 ~~normative guide has been developed to orchestrate these items throughout the standards process.~~ ~~For current best~~
 343 ~~practice on the formulation of file namespace and file path names see~~
 344 ~~See:~~ <ftp://ftp.pwg.org/pub/pwg/informational/pwg-document-namespace-policy.pdf>
 345

346 4.1 Editing Documents

347 The Working Group Chair will appoint an editor for each standards-track document. The editor will be approved by a
 348 simple majority vote of the working group. Normally an editor will work in this capacity throughout the life cycle of the
 349 standard, although exceptions may occur. Editors are responsible for reflecting the decisions of the working group,
 350 rather than their own personal views. Ultimately, the editor has responsibility for the quality of the document, making
 351 sure that it is readable and has a coherent style, even when it has multiple authors or contributors.
 352

353 4.1.1 Document Status Levels

354 A PWG document SHALL be labeled with a status level that will appear on the title page as follows:
 355 Status: <keyword>

356 **Table 2 – Status keywords**

<u>Status keyword</u>	<u>Indicates</u>
<u>Initial</u>	<u>Initial attempt to specify the standard.</u>
<u>Interim</u>	<u>Standard in development. Significant changes to the standard expected in the future.</u>
<u>Prototype</u>	<u>Content of the standard is functionally complete and ready for prototyping.</u>
<u>Stable</u>	<u>Standard is very close to completion. Standard is either getting ready for, is in, or has completed Last Call.</u>
<u>Approved</u>	<u>The document has successfully completed PWG Formal Approval (see 8.3)</u>
<u>Obsolete</u>	<u>The document has been obsoleted by another PWG standard or industry standard. The obsolete PWG document is deprecated and should not be implemented.</u>
<u>Superseded</u>	<u>The document has been superseded by another PWG standard or industry standard. The superseded PWG document is substantially technically correct and may be implemented for compatibility.</u>

357 “Approved”, “Obsolete” and “Superseded” status are only applicable to documents that have successfully completed
 358 PWG Formal Approval.
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Normally, a Working Draft will progress through each status level from "Initial" to "Stable". Status levels may be skipped for some limited standards efforts. It is possible for a Working Draft to achieve reduced status if an unexpected, serious problem is found, for example, during prototyping.

The status of a Working Draft will be established via working group consensus.

367 4.2 Organizing and Naming Documents

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Early versions of a ~~w~~Working ~~g~~Group Charter, Requirements, whitepapers and other supporting documentation may circulate on the pwg@pwg.org e-mail reflector. ~~During formalization of their~~ Once a Working Group is formalizing their Charter and Requirements ~~and, certainly, by the time an initial Working Draft is in progress, a working group the Working Group~~ will ~~have chosen~~ an abbreviation (usually 2 to 4 characters), ~~which will be used~~ to preface their document names. This must be accomplished before the first Working Draft is published. The ~~w~~Working ~~G~~group ~~can pick the~~ abbreviation, ~~which~~ is subject to approval by the PWG Steering Committee.

375 4.3 Working Group Charter

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The first order of business for any working group is to create a ~~C~~e charter that clearly describes the scope of their work. Brainstorming, fact-finding, guest speakers and other enlightening activities often precede or coincide with Charter development. In addition to scope, the Charter should define milestones and schedule, including an expiration date. The PWG Steering Committee, based on perception of progress and commitment of the working group, may grant extensions. In some cases the working group may choose to publish their standard in affiliation with an outside standards organization such as the IETF or W3C. If this is evident, the Charter should indicate the desire for formal affiliation with another standards organization and include a liaison plan with the other organization. Charter definition, requirements gathering and outlining a preliminary Working Draft may occur simultaneously. In many cases, this is encouraged, as new information gleaned from these activities may alter perception of the Charter.

A Working Group Charter requires Formal Approval (see Section ~~0~~ 8.3).

388 4.4 Statement of Requirements

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Prior to completion of the first Working Draft, a clear statement of requirements for the standard to be produced is required. A requirements statement documents the best effort collection of known requirements on a particular protocol, interface, procedure or convention. The requirements statement is important as it leads to a clear, common understanding of the goals, provides a guide for developing the standard, and can be used as a final test to measure the completeness of the resulting specification. It is not necessary that the resulting standard meet every stated requirement, but the standard should be explicit about which requirements it does not meet, and why. Requirements may be updated during the development of the standard, as they become clearer. As with Charter (above), brainstorming, fact-finding and associated activities frequently accompany the process of requirements gathering. Often, at the beginning of a project, the Charter, Requirements and early versions of an initial Working Draft are all undergoing simultaneous revision until a clear direction emerges and the Charter and Requirements are formally approved.

A Working Group Statement of Requirements requires Formal Approval (see Section ~~0~~ 8.3).

403 4.5 Working Draft

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When rough consensus has been reached on the Charter, Requirements ~~and general approach~~, and there is sufficient information to begin writing a standard, the initial Working Draft will be written. Charter and Requirements must reach Formal Approval ~~be formally approved~~ prior to completion of the first Working Draft. A PWG Working Draft facilitates reaching consensus on how to approach the PWG Standard and provides a backdrop for discussion

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and agreement on details of the specification. The initial Working Draft, when should be reasonably complete, provides a foundation and drives a stake in the ground as the basis for further work on the Standard.

Working Drafts correspond to a specific version of the Standard they are defining. Unless the working group is engaged in an effort to revise an existing PWG Standard, the Working Drafts are always defining PWG Standard Version 1.0.

A PWG Working Draft cannot progress ahead of any given normative reference that it contains.

A PWG Working Draft requires Last Call, and Formal Approval to transition to PWG Candidate Standard.

4.5.1 Maturity Level

~~In the interest of providing some subjective indication of the maturity of a PWG Working Draft, a Maturity Level will appear on the title page as:~~

~~Maturity: <keyword>~~

~~Although the maturity level will not appear on PWG Candidate Standards or PWG Standards, if a Candidate Standard needs to be revised, any resulting PWG Working Drafts will have a maturity level indicated on their title page.~~

Table 2 — Maturity Level keywords

<i>Maturity Level keyword</i>	<i>Indicates</i>
Initial	Initial attempt to specify the standard.
Interim	Standard in development. Significant changes to the standard expected in the future.
Prototype	Content of the standard is functionally complete and ready for prototyping.
Stable	Standard is very close to completion. Standard is either getting ready for, is in, or has completed Last Call.

~~Normally, the Working Drafts of a standard would progress from “Initial” to “Stable” in stages, although stages could be skipped for small standards efforts. However, it is possible for the Working Drafts to become less mature: if a large problem was found in a standard that was considered “Prototype”, it might have to go back to “Interim” while that problem is solved. Note also that for all four maturity levels, multiple, consecutive Working Drafts might have the same maturity level.~~

~~The stated maturity level of a Working Draft will be established via working group consensus.~~

~~Table 2 above should appear in the “boilerplate” of every Working Draft as a handy reference for readers to understand the significance of the maturity level keyword on the title page.~~

4.6 Candidate Standard

When agreement has been reached among the participants about the details of a Standard, the current Working Draft is ready to transition to a PWG Candidate Standard. A Working Draft MUST NOT be approved as a Candidate Standard unless it is supported by 1 or more prototype and is thought to be ready for implementation. The purpose of prototyping is to generate information that will help design or perfect the final standard. As each type of standard may differ, the PWG process does not define specific, measurable prototype criteria beyond the commonly held notion of a test-of-principle model or early version of a technological device or process. A PWG Candidate Standard MUST NOT progress ahead of any Normative Reference that it contains.

A PWG Candidate Standard forms the basis for comments from outside of the working group and the PWG, and provides the foundation for initial product development and interoperability testing. Implementations can comfortably

451 proceed from a PWG Candidate Standard, knowing that it will not undergo significant change as it matures to a PWG
452 Standard. However, ~~if should~~ changes to a Candidate Standard be ~~come~~ necessary, these changes will be
453 accomplished via Working Drafts that must once again go through Last Call and Formal Approval. The Working Draft
454 will then and only then regain Candidate Standard status.

455
456 Candidate Standards correspond to a specific version of the Standard they are defining. Unless the working group is
457 engaged in an effort to revise an existing PWG Standard, the Candidate Standards are always defining PWG
458 Standard Version 1.0.

459
460 When a document becomes a Candidate Standard, it is assigned an IEEE-ISTO standard number, which it keeps
461 forever. To indicate the standard is at Candidate Standard status, the prefix "CS" is attached to the standard
462 number, resulting in a number such as "PWG CS 5105.2". If the Candidate Standard goes back to Working Draft
463 status, "WD" replaces the prefix "CS", resulting in a number such as "PWG WD 5105.2". IEEE-ISTO standard
464 numbers are tracked and assigned by the PWG Secretary.

465
466 ~~A PWG Candidate Standard cannot progress ahead of any given normative reference that it contains.~~

467
468
469 A PWG Candidate Standard requires Last Call, demonstration of Interoperability and Formal Approval to transition to
470 PWG Standard.

471

472 4.7 Standard

473 When a PWG Candidate Standard has passed Last Call, demonstrated interoperability and acquired Formal
474 Approval, it is promoted to the final status of a PWG Standard. At this point, "STD" replaces the prefix "CS" in the
475 IEEE-ISTO standard number and "PWG" is replaced by "IEEE-ISTO", resulting in a number such as "IEEE-ISTO
476 STD 5105.2".

477 4.8 ~~Maintenance of Extensions to standards~~

478 When a document has reached the PWG Candidate Standard or PWG Standard status, maintenance activity may
479 occur on that documents can be written that are extensions to that standard. Such revision or extension documents
480 start immediately at Working Draft status and then follow all rules above for progression to Candidate Standard and
481 Standard. Note that the extension to a Candidate Standard cannot progress to Standard before the Candidate
482 Standard it is revising or extending has progressed to Standard.

483
484 It is also possible that the PWG will decide to formalize PWG extensions for any (IETF, IEEE, or other printing
485 industry) external standard (e.g. RFC2911). As above, such extension documents start immediately at Working Draft
486 status and then follow all rules in earlier sections above for progression to Candidate Standard and Standard.

487 4.9 Best Practices

488 Best Practice documents reflect policy and advice from the PWG. Such documents, while not normative, are ~~often~~
489 referenced often referenced for clarification of PWG and related standards. Because we want Best Practice to be
490 reliable and accurate, we treat these as formal Working Group documents that undergo naming, Last Call and
491 Formal Approval just like a Working Draft.

492 5 Informal supporting PWG documents

493 The following are considered informal, working documents that contribute to the development or clarification of a
494 PWG Standard. As such, these documents require no Formal Approval process.

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495 5.1 White Papers, Technical Briefs and other non-normative documents

496 During the standards process, PWG members are encouraged to document proposals, clarifications or otherwise
 497 useful documents such as machine generated MIB fragments and XML schema ~~as~~as a White Paper or Technical
 498 Brief. These documents provide an informal means of communicating technical proposals among PWG members. It
 499 is strongly recommended that any topic open for discussion on the PWG agenda have supporting documentation
 500 made available for review at least one week prior to the meeting where the paper is to be discussed. Technical
 501 Briefs are particularly useful when two or more approaches to a standard exist and need to be debated. White
 502 Papers and Technical Briefs (treated the same) may be updated to reflect group consensus or individual positions on
 503 a particular topic. Since a White Paper represents current thought and individual contribution, they do not require
 504 any form of approval and have no formal status. White Papers, Technical Briefs and other documents, such as FAQ,
 505 are subject to change or withdrawal at any time. These documents should be posted to the PWG FTP site and
 506 announced on the working group mailing list prior to discussion at a PWG meeting. Discussion will be most fruitful
 507 when people have taken adequate time to review the papers prior to the meeting.
 508

509 6 ExceptionsModifications to process

510 To handle exceptional cases, the Steering Committee may decide that ~~one or more~~some or all of the steps in the
 511 standards process may be shortened or eliminated. Such an exception to this PWG Standards Process must be
 512 approved by unanimous consent of the entire PWG Steering Committee. Need to describe how

513 7 Publication of PWG documents

514 All of the PWG standards-track and supporting documents described in sections 4 and 5 must be available in either
 515 PDF or HTML format (others may be provided as well) and published on the PWG FTP site. Any document identified
 516 as PWG Charter, PWG Requirements, PWG Working Draft, PWG Candidate Standard or PWG Standard represents
 517 a formal PWG approved document, which will be published in a durable location with well-known path after achieving
 518 the appropriate Last Call and/or Formal Approval. Listed are examples of the directory structure using v1.0
 519 Standards as an example. In use, “[[working group](#)]wg” would be replaced by the abbreviation for a particular working
 520 group (ex. pmp, psi, ipp, [wbmm](#) etc.). Note the prefix conventions established for these documents as reflected in the
 521 file name prefix in the examples below.
 522

523 Charter – ftp://ftp.pwg.org/pub/pwg/[\[working group\]wg](#)/charter/ch-[\[working group\]wg](#)10-yyyymmdd.pdf
 524 Requirements (active) – ftp://ftp.pwg.org/pub/pwg/[\[working group\]wg](#)/wd/wd-[\[working group\]wg](#)req10-yyyymmdd.pdf
 525 Requirements (final) – ftp://ftp.pwg.org/pub/pwg/informational/req-[\[working group\]wg](#)req10-yyyymmdd.pdf
 526 Best Practices – ftp://ftp.pwg.org/pub/pwg/informational/bp/bp-[\[working group\]wg](#)10-yyyymmdd.pdf
 527 Working Drafts – ftp://ftp.pwg.org/pub/pwg/[\[working group\]wg](#)/wd/wd-[\[working group\]wg](#)10-yyyymmdd.pdf
 528 Candidate Standards – ftp://ftp.pwg.org/pub/pwg/candidates/cs-[\[working group\]wg](#)10-yyyymmdd-510n.m.pdf
 529 Standards – ftp://ftp.pwg.org/pub/pwg/standards/std-[\[working group\]wg](#)10-yyyymmdd-510n.m.pdf
 530

531 For current best practice on the formulation of these names see
 532 <ftp://ftp.pwg.org/pub/pwg/informational/pwg-document-namespace-policy.pdf>
 533

534 Standards are not published in the Working Group path. PWG Standards are given a unique number and are
 535 published in one, flat, namespace, managed by the PWG Secretary, for ease of access, accuracy and durability.
 536

537 Supporting documents (see Section 5) are posted in the root Working Group path or a subdivision of that path as
 538 appropriate. Filename prefixes for common supporting documents are:
 539

540 White Paper and Technical Brief – tb

541
 542 FAQ – faq

543 Last Call Review Comments - lcrc

544

545 Internal working versions of PWG documents should be available in an agreed upon, widely available word
546 processing format, to provide for collaboration between document editors and contributors. For example, Microsoft
547 WORD and HTML are common revisable formats in use, today.

548

549 When documents are posted to the PWG FTP site, a notice should also be posted to the Working Group mailing list.
550 It is recommended that Working Groups provide a web site where information about their activities is provided. The
551 Web site should provide links to current, relevant documents.

552

553 8 Approval

554 8.1 Last Call

555 Last Call represents a final opportunity for issues to be raised against a document. ~~During this period all PWG~~
556 ~~members are encouraged to review the final working draft for both technical and editorial content and to provide~~
557 ~~comments to the working group.~~ -The WG Chair announces a Last Call on a document with rough consensus of the
558 working group. Last Calls are posted to all members of the PWG via the PWG-ANNOUNCE mailing list. ~~A successful~~
559 ~~Last Call indicates a higher level of maturity during the development of a Standard.~~ The Last Call period may vary,
560 based upon the content, complexity, holidays or other circumstances, but must be at least 16 full working days
561 (minimum 22 calendar days). A working day is a normal business day and is considered to end at 10 PM USPST
562 (Los Angeles, CA, USA). . Every Last Call must conclude at a PWG Plenary meeting with an overview of the draft or
563 standards document and a review of detailed issues and their resolutions. All issues raised during Last Call must be
564 either resolved or rejected as follows:

565

- Resolved - Document updated to reflect the resolution

566

- Rejected - No change required in the document

567

568 All issues and their resolution ~~from the most recent Last Call~~ must be published in the Formal Approval
569 announcement.

570

571 8.2 Last Call Formal Review

572 Last Call results must be reviewed by the PWG Steering Committee to validate that the Last Call process has been
573 conducted properly, prior to the ~~start~~ initialization of Formal Approval.

574 8.3 Formal Approval

575 8.3.1 Formal Approval Process

576 Once all of the Last Call issues have been resolved or rejected, and the PWG Steering Committee has reviewed Last
577 Call, the PWG Secretary must announce a vote for Formal Approval to transition the document to the next ~~maturity~~
578 ~~level~~ status level. Formal approval voting must be announced and conducted via the PWG-ANNOUNCE mailing list
579 and the announcement must contain all issues and their resolution, which occurred during Last Call. The Formal
580 Approval period must last at least 16 full working days (minimum 22 calendar days) and may be longer at the
581 discretion of the WG Chair. A working day is a normal business day and is considered to end at 10 PM USPST (Los
582 Angeles, CA, USA).

583 The PWG Secretary will administer the Formal Approval process with the assistance of the working group chair and
584 the ISTO.

585

586 Formal Approval requires

587

- ~~A Quorum defined by as~~ minimum of 25% of ~~active~~ eligible members ~~actually~~ casting a vote

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- 589 • ~~YES votes by approval by~~ 2/3 of those casting votes ~~(abstentions do not count) with~~ when there is no strong
- 590 opposition
- 591 • ~~YES votes approval~~ by 80% of those casting votes ~~(abstentions do not count)~~, in the face of strong opposition
- 592 • 50 percent of votes cast (abstentions included) must be YES.

593

594 Strong opposition occurs when one or more companies formally calls for an 80% vote. It is the responsibility of the
595 WG chair to ensure that the results of a vote are fair and representative. If a member of the PWG has an issue with a
596 WG Chair decision, he or she can appeal that decision to the PWG Steering Committee (first) and then to the
597 membership of the PWG at large if necessary.

598

599 A no vote on a standards-track document requires the voter to state the reason for the no vote, and a description of
600 the changes that would be required to the document to turn the no vote to a yes. These will be documented on the
601 PWG-ANNOUNCE mailing list.

602

603 Formal approval is not granted until the PWG Steering Committee reviews the process used to achieve Last Call and
604 Vote insuring the PWG process was followed with fidelity.

605 8.3.2 Formal Approval voting rights

606 The following voting rights policy applies to all Formal Approval voting:

607

- 608 • A voter must be a representative of a PWG Member Organization.

609

- 610 • Votes are counted on an organization basis.

611

612 8.3.2.1 Definition of quorum

613 ~~For Formal Approval a quorum is necessary and is defined at 25% of eligible member companies actually casting a~~
614 ~~vote.~~

615

616 8.4 Publishing Of Approved Document

617 The PWG Secretary, with assistance from the WG Chair, must edit documents that have passed Formal Approval to
618 update the document number, format and the final publication date. The PWG Secretary must then publish the
619 document in the appropriate locations ~~(see section XXX)~~ with the appropriate file names (see section 7).

620

621 8.5 Approval with a Working Group**622 8.5.1 Working Group approval process**

623 For technical issues, a 2/3 majority of those casting votes (abstentions do not count) is required. A simple majority of
624 those casting votes (abstentions do not count) is required to pass on administrative and operational issues.

625 8.5.2 Working Group approval voting rights

626

627 The following voting rights policy applies to all voting done within the PWG Working Groups:

628

- 629 • A voter must be a representative of a PWG Member Organization.

630

- 631 • Votes are counted on an organization basis.

632

- 633 • At times it may become necessary to conduct a vote on internal WG matters. If so, eligibility is determined by an
634 organization attending two of the previous four face-to-face meetings, or two of the previous four conference
635 calls. It is the responsibility of the Secretary to maintain the list of eligible voters.
636
- 637 • With a simple majority vote, the working group may confer voting rights to an individual or organization that is not
638 otherwise eligible to vote due to lack of attendance. This is done on a case-by-case basis and is intended to
639 address those individuals or companies who have made significant, on-going contributions to the group – but
640 have not been able to attend the required number of meetings. In no case may a representative of a non-
641 member company be conferred voting rights by the action of a working group.
642
- 643 • A Working Group Chair may declare that a sufficient quorum does not exist for voting purposes if at least 50% of
644 potential voting members are not present during the vote.
645
- 646 • Voting is not a requirement for declaring rough consensus, unless specifically requested by a member with voting
647 rights.

648 8.6 Approval at a PWG Plenary

649 8.6.1 PWG Plenary approval process

650 A simple majority of those casting votes (abstentions do not count) is required.

651 8.6.2 PWG Plenary approval voting rights

652 The following voting rights policy applies to all voting done within the PWG plenary:

- 653 • A voter must be a representative of a PWG Member Organization.
654
- 655 • Votes are counted on an organization basis.
656
- 657 • Plenary voting occurs at plenary sessions, so participation in the plenary is required for voting.
658
- 659 • Voting is not a requirement for declaring rough consensus, unless specifically requested by a member with voting
660 rights.
661

662 9 Maintenance

663 Many PWG standards are extensible and provide the ability for additional keyword or enumerated values to be
664 registered. When approved, these have the same status as the standard to which the feature is being added. In
665 addition, as implementation work proceeds, clarifications may be required to guarantee interoperability. This section
666 addresses the process to be followed for:

- 667 • ~~registrations~~Registrations of new operations and type 2 enums, keywords, and attributes, and
 - 668 • ~~clarifications~~Clarifications of the standard and any approved registrations
- 669 Major changes or additions to a standard are not considered maintenance, but require engagement of the PWG
670 standards development process described above.

671
672 Proposals for registrations and clarifications will follow the following process:

- 673 1. Each WG will appoint a Maintenance Editor for their PWG Standard.
- 674 2. Anyone can initiate a proposal for a clarification or registration by starting a discussion on the appropriate project
675 mailing list.
- 676 3. After there is some agreement on the mailing list for the need of a clarification or the suitability of a registration,
677 the proposer and the standard's Maintenance Editor work out a proposal. Such a proposal should include:
 - 678 • Status of the proposal, including previous reviews.
 - 679 • A description of the requirement being met or the problem being solved.

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- 680 • Description of the proposed solution.
- 681 • The exact text to be incorporated into the standard at some future date.
- 682 4. To make the status of proposed registrations and clarifications clear to PWG participants and others, the
- 683 Maintenance Editor will keep them in the appropriate sub-directory
- 684 ftp://ftp.pwg.org/pub/pwg/[working group]xxx/proposed-registrations
- 685 ftp://ftp.pwg.org/pub/pwg/[working group]xxx/proposed-clarifications
- 686 where [working group]xxx is the working group project acronym.
- 687 5. All proposals must be published according to section 6 of this document.
- 688 6. Reviews of proposed registrations and clarifications may occur at a meeting or on the MAILING LIST.
- 689 7. The proposal will undergo sufficient reviews and updates until, in the opinion of the WG Chair, there is rough
- 690 consensus that the proposal is ready for Last Call as described in section 8.1 followed by Formal Approval as
- 691 described in section 8.3.
- 692 8. If, in the opinion of the WG Chair, the Last Call discussions and Formal Approval meet the voting requirements
- 693 described in section 0, the Maintenance Editor will move the approved registration or clarification to the
- 694 appropriate sub-directory for each project
- 695 ftp://ftp.pwg.org/pub/pwg/[working group]xxx/approved-registrations
- 696 ftp://ftp.pwg.org/pub/pwg/[working group]xxx/approved-clarifications
- 697 and announce the Formal Approval to the entire PWG via the PWG-ANNOUNCE MAILING LIST.
- 698 9. Periodically, the Maintenance Editor will incorporate the approved registrations and clarifications into the version
- 699 of the standard that the PWG keeps to record all approved registrations and clarifications. Such an updated
- 700 version of the standard will have a new minor version of the standard, along with a Change History Appendix that
- 701 lists each change.
- 702
- 703

704 **10 Intellectual Property and Confidentiality**

705 Note: The Intellectual Property and Confidentiality section has been preserved in its entirety. During the evolution of
 706 PWG Process Document versions, this section has remained unchanged so as not to disrupt established legal
 707 reviews and approvals established among out members.

708 **10.1 Ownership of IP rights:**

709 All patents, copyrights, or other intellectual property owned or created by any Member or member's affiliates
 710 ("hereinafter "Member or Associate) outside the PWG or its work within the PWG shall remain the property of that
 711 Member or Associate thereunder and shall not be affected in any way by the Member or Associate's participation in
 712 the PWG.

713
 714 The PWG may, through its activities, generate intellectual property, and license such property to the Members and/or
 715 Associates on reasonable and nondiscriminatory terms, conditions and prices; provided, however, that Members and
 716 Associates receive more favorable pricing than non-Members or non-Associates.

717
 718 All information and materials, and all copyrights thereto, contributed by Members and Associates and their
 719 representatives and incorporated into a PWG Standard and Specification (here after "the Standard") shall be owned
 720 by the contributing Member or Associate. The contributing Member or Associate shall grant PWG and its Members
 721 and Associates an irrevocable license to use, reproduce, modify, distribute and sublicense the copyrighted work(s)
 722 incorporated in the Standard on non-discriminatory basis and within reasonable terms and conditions.
 723 Notwithstanding the above, any intellectual property independently created by a Member or Associate, but not
 724 incorporated into a PWG standard, should remain the exclusive property of the original owner and no mandatory
 725 license should be imposed.

726
 727 Participants in the standard setting procedure shall disclose any known patents whose use would be required for
 728 compliance with a proposed PWG standard. Prior to PWG's approval of the proposed standard, the PWG should
 729 receive a written patent statement from the patent holder as described below in section 10.3.

730 10.2 Intellectual Property Procedures

731 The PWG is not in a position to give authoritative or comprehensive information about evidence, validity or scope of
732 patents or similar rights, but it is desirable that any available information should be disclosed. Therefore, all PWG
733 members shall, from the outset, draw PWG's attention to any relevant patents (hereinafter defined) either their own
734 or of other organizations including their Affiliates (hereinafter defined) that are known to the PWG members or any of
735 their Affiliates, although PWG is unable to verify the validity of any such information.

- 737 • “Relevant Patents” means any issued or registered patent, without use of which a Proposed PWG Standard
738 cannot be practiced.
- 739 • “ Proposed PWG Standard” means each proposal towards each PWG specification, which proposal is submitted
740 to PWG after the date of acceptance of these Procedures (hereinafter the Effective Date).
- 741 • “Affiliates or Associates,” with respect to section 10.2, means any entity that as of the Effective Date directly or
742 indirectly is controlled by the PWG member, so long as such control exists, where “Control” means beneficial
743 ownership of more than fifty percent (50%) of the voting stock or equity in an entity.

744 10.3 Patent Statement

745 If a Proposed PWG Standard is submitted to the PWG, three different situations may arise with respect to the
746 relevant Patents:

- 748 (1) In the event the PWG Proposed Standard is adopted to become a PWG Standard, the patent holder waives his
749 rights under the Relevant Patents owned by him and hence, the Proposed PWG Standard is freely accessible to
750 everybody; no particular conditions, no royalties due, etc., with respect to such Relevant Patents. The PWG
751 Standard means any PWG specifications that are officially published by PWG after October 1, 1999.
- 753 (2) In the event a PWG Proposed Standard is adopted as a PWG Standard, the patent holder is not prepared to
754 waive his rights under the Relevant Patents owned by him but would be willing to grant licenses to other parties
755 on a non-discriminatory basis and on reasonable terms and conditions, provided a similar grant under the
756 licensee's patents within the scope of the license granted to the licensee is made available. Such license grants
757 are left to the parties concerned.
- 759 (3) In the event the Proposed Standard is adopted to become a PWG Standard, and the patent holder is not willing
760 to comply with the provisions of either paragraph 10.3 (1) or (2), in such a case the Proposal cannot be
761 established as a PWG Standard.
- 763 (4) Whichever option from among paragraphs 10.3 (1), (2) or (3) is chosen, any PWG member must provide a
764 written statement to be filed on behalf of itself and its Affiliates at the PWG secretariat with respect to the
765 Relevant Patents that are owned by the PWG member or any of its Affiliates and known to the PWG member or
766 any of its Affiliates. This statement must not include additional provisions, conditions, or any other exclusion
767 clauses in excess of what is provided for each case in paragraphs 10.3 (1), (2) and (3).
- 769 (5) If no Relevant Patents that are owned by the PWG member or any of its Affiliates are known to the PWG
770 member or any of its Affiliates, an affirmative disclosure to that effect must be submitted before the end of the
771 Patent Statement deadline in lieu of the Patent Statement. Any Relevant Patents that are owned by the PWG
772 member or any of its Affiliates and are found after the Patent Statement deadline are automatically subject to
773 either paragraph 10.3 (1) or (2) as described above.
- 775 (6) Format of Patent Statement/Patent Notice
- 776 (i) A Patent Statement should be submitted by all the PWG members for all Relevant Patents which are known
777 to the PWG members and their Affiliates and are owned by the PWG members or their Affiliate, providing the
778 following information:
 - 780 1. Proposal Name

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- 782 2. Organization: The organization that holds the patent which could include administrations, universities,
783 etc., and its contact address.
- 784 3. Tel. No.: The contact telephone number of the organization.
- 785 4. Fax. No.: The contact fax number of the organization.
- 786 5. Patent Policy and Remarks: The declared patent policy of the organization in its communication to the
787 PWG. Most often the patent policy is given as "Pat. Policy. 10.3 (2)", which would mean that the
788 organization subscribes to paragraph 10.3 (2) of the PWG bylaws.
- 789 6. Patent Title: The title of a patent
- 790 7. Patent Number: The number of the patent.
- 791 8. Patent Country: The country in which the patent has been obtained. If the patent is held in several
792 countries, a list of those countries is given.
- 793 9. Signature: Signature of an authorized representative of the company.
- 794
- 795 (ii) Further, a Patent Notice should be submitted by all the PWG members for Relevant Patents which are
796 known to the PWG members and their Affiliates and are not owned nor controlled by the PWG members or
797 their Affiliate, providing the following information:
- 798
- 799 1. Proposal Name
- 800 2. Organization: The organization that holds the patent which could include administrations, universities,
801 etc., and its contact address.
- 802 3. Patent Title: The title of a patent
- 803 4. Patent Number
- 804 5. Patent Country: The country in which the patent has been obtained. If the patent is held in several
805 countries, a list of those countries is given.
- 806 6. Signature: Signature of a representative of the company
- 807
- 808 (7) All members must submit a written patent statement according to section 10.3(6) between the proposal deadline
809 and the commencement of voting period.

810 **10.4 Non-Confidentiality.**

811 The participation in the PWG by the Members and the Associates and their appointed representatives shall be on a
812 non-confidential basis; however, a PWG Member may with the approval of the Steering Committee, wherein such
813 approval shall not be unreasonably withheld, enter into written confidentiality agreements with all other PWG
814 Members which restricts the dissemination of specified confidential information and/or materials provided by any of
815 such Member, to Persons who are not Members or Associates.

816

817 Subject only to valid patents and copyrights, all PWG Members and Associates shall be free to use all information
818 received or publicly disclosed from the PWG, its Members or Associates in connection with the normal business
819 including the processes described herein, without obligation regardless of markings including but not limited to
820 "Proprietary" or "Confidential."

821 **11 PWG Process Diagram**

822 A diagrammatic representation of the PWG process is located at
823 <ftp://ftp.pwg.org/pub/pwg/general/process/PWGProcessDiagram.pdf>
824

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