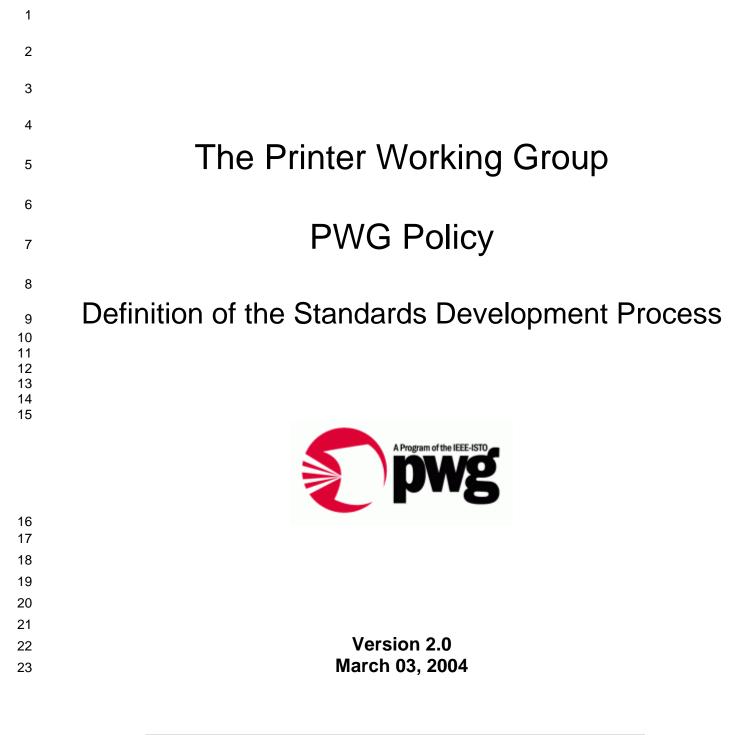


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29	The Printer Working Group
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31	PWG Policy
32	Definition of the Standards Development Process
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35	Version 2.0
36 37	March 03, 2004
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42 43 44 45 46 47 48 49 50	Abstract: This document defines the standards development process that guides and controls the work of the IEEE- ISTO 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 unaltered but the overall process has been streamlined, compared to the original, and sound file naming and document versioning guidelines defined. This is a process defining document, not an industry standard.
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52 53	This version of the PWG Standards Development Process is available electronically at: <u>ftp://ftp.pwg.org/pub/pwg/standards/process/pwg-process20-20040302.pdf</u> , .doc
54	
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61 Title: <u>The Printer Working Group Definition of the Standards Development Process</u>

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- 88 For additional information regarding the IEEE-ISTO and its industry programs visit http://www.ieee-isto.org.

About the IEEE-ISTO PWG 89

90 The Printer Working Group (or PWG) is a Program of the IEEE Industry Standards and Technology Organization (ISTO) with member organizations including printer manufacturers, print server developers, operating system 91 92 providers, network operating systems providers, network connectivity vendors, and print management application 93 developers. The group is chartered to make printers and the applications and operating systems supporting them work together better. All references to the PWG in this document implicitly mean "The Printer Working Group, a 94 Program of the IEEE ISTO." In order to meet this objective, the PWG will document the results of their work as open 95 96 standards that define print related protocols, interfaces, procedures and conventions. Printer manufacturers and vendors of printer related software will benefit from the interoperability provided by voluntary conformance to these 97 98 standards.

99 In general, a PWG standard is a specification that is stable, well understood, and is technically competent, has

100 multiple, independent and interoperable implementations with substantial operational experience, and enjoys

- 101 significant public support.
- 102 For additional information regarding the Printer Working Group visit: http://www.pwg.org
- 103 Contact information:
- 104 PWG Web Page: http://www.pwg.org/
- 105 PWG Mailing List: pwg@pwg.org
- 106 To subscribe to the PWG mailing list, send the following email:
- 1) send it to majordomo@pwg.org 107
- 2) leave the subject line blank 108
- 3) put the following two lines in the message body: 109
- subscribe pwg 110
- 111 end 112
- 113 Members of the PWG and interested parties are encouraged to join the PWG Mailing List in order to participate in any discussions of clarifications or review of the PWG Process. 114
- 115

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162	13	Author's Address
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168 **1** Introduction

169 This document establishes the process that is followed as open industry standards are developed by the IEEE ISTO 170 Printer Working Group. The Printer Working Group (or PWG) is a Program of the IEEE Industry Standards and 171 Technology Organization (ISTO) and is an alliance among printer manufacturers, print server developers, operating 172 system providers, network operating systems providers, network connectivity vendors, print and print management 173 application developers chartered to make printers and the applications and operating systems supporting them work 174 together better. All references to the PWG in this document implicitly mean "The Printer Working Group, a Program 175 of the IEEE ISTO." In order to meet this objective, the PWG will document the results of their work as open 176 standards that define print related protocols, interfaces, procedures and conventions. Printer manufacturers, vendors 177 of printer related software and the consuming public will benefit from the interoperability provided by voluntary 178 conformance to these standards.

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

187 This process document establishes

- 1. The stages, or maturity levels a standard will go through from Charter and Requirements through Drafts, Candidates and Standard to the final, Maintenance stage of an established standard.
- 2. Working documents naming and versioning
- 3. Standards naming and numbering
- 4. File name and path conventions for durable documents such as WSDL and schema.

This document can be updated and a new version can be produced. As long as section 11 is not modified, the new
version must be approved through the Formal Approval process described in section 8.3.1. If section 11 is modified,
100% of all PWG members must approve the new document (abstentions/non-votes are not allowed).

197 **2 Organization of the PWG**

198 The Printer Working Group is composed of representatives from printer manufacturers, print server developers, 199 operating system providers, network operating system providers, network connectivity vendors, and print and print 200 management application developers. Member organizations are those companies, individuals or other groups (i.e. a 201 university) that have agreed to participate and operate under the processes and procedures of the ISTO by-laws, the 202 ISTO-PWG Program Participation Agreement and this document and have paid the annual assessment. Multiple 203 individuals employed by the same company or other organization cannot join the PWG as individual members. 204 Associates or affiliates of member organizations which are beneficially controlled or owned by said member 205 organization with more than fifty percent (50%) of the voting stock or equity shall not be considered a separate entity 206 and are not eligible for separate membership in the PWG. The annual assessment is set each year by the PWG 207 itself.

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209 2.1 PWG Officers

- 210 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
- 212 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 (see section 1.1), 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
- 217 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 information and company profile information, including logo, as it pertains to representation on the PWG web site.
- 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.

236 **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.

- 241 242 The Chair of a WG is appointed by the PWG Chair, with approval (simple majority) at a PWG plenary. The WG 243 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 244 245 of a PWG Member Organization. The working group Chair is responsible for appointing a Vice Chair and Secretary 246 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 247 248 sessions. 249
- The Vice Chair of a WG is appointed by the WG chair, 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.
- A WG Secretary is appointed by the WG Chair, with approval (simple majority) of the WG. The term of office is indefinite. The responsibilities of the Secretary are to record and distribute minutes of working group meetings and to record attendance for members of that working group.

257 2.3 PWG Meetings

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258 The annual face-to-face meeting schedule for the PWG is set in October of each year. As a guideline, it is common to hold face-to-face meetings every 6 to 10 weeks with phone and web based conferencing during the interim. Face-259 260 to-face meetings are to be distributed geographically to try and distribute the travel burden among members. Meeting 261 schedule and locations are determined through a proposal / consensus process and no other specific process or 262 guarantees are implied. Meeting location details are to be published at least 4 weeks in advance of meetings. New 263 documents must not be introduced under any circumstances less than 1 week prior to a face-to-face as this only leads to confusion and ineffective meeting results. Decisions made at PWG administrative, business, or plenary 264 265 meetings require a simple majority, 1 vote per member organization.

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

270 2.4 PWG Communications Infrastructure

271 The PWG will maintain

- A PWG web site <u>http://www.pwg.org</u> where PWG working group information, meeting schedules and document links and other pertinent information may be found.
- A PWG ftp site <u>ftp://ftp.pwg.org</u> where PWG working drafts, standards, procedures, schema, templates and other useful and necessary documents may be accessed.
- 276 3. An e-mail reflector, including archive, for each active project.277

278 **3 PWG Standards development and maintenance**

There are 3 main phases to standards development in the PWG – Charter, Development and Maintenance (Table 1).
These phases are a guideline to the activities and types of documents a working group should expect to encounter.
There are no specific exit criteria from these phases. Exit criteria apply to PWG Standards documents and are
outlined in section 4.

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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	PWG Working Drafts Candidate Standards Supporting durables such as WSDL, Schema
Maintenance	Maintain PWG Standard	Errata Registration of new keywords, enums	Standard Supporting durables

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4 Formal PWG standards-track process

Standards development is guided, largely, by the progression of documents used to define and articulate the
 Standard. Formal documents consist of the Charter, a set of Requirements, Working Drafts, Candidate Standards

292 and, ultimately, the Standard, itself. Due to their highly influential nature, informative documentation of Best Practice 293 is also treated as a formal document. Publication of these formal PWG standards-track documents requires Last Call 294 and/or Formal Approval (vote) by the membership of the PWG as described in Section 1. The standards process 295 may be augmented by a set of informal technical briefs and proposals reading on the standard. While helpful and 296 encouraged, these are not treated as formal documents and do not require formal approval. Standards-track 297 publications and the criteria for exit are defined below. Because the synchronization of Standard version, standard 298 document maturity, document naming, support file namespace and file path names can be quite complex, provides 299 an example of how these items are orchestrated throughout the standards process.

300 **4.1 Editing Documents**

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

306 **4.2 Organizing and Naming Documents**

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Early versions of a Working Group Charter, Requirements, whitepapers and other supporting documentation may circulate on the <u>pwg@pwg.org</u> e-mail reflector. Once a Working Group is formalizing their Charter and Requirements and, certainly, by the time an initial Working Draft is in progress, the Working Group will have chosen an abbreviation (usually 2 to 4 characters) which will be used to preface their document names. The Working Group can pick the abbreviation which is subject to approval by the PWG Steering Committee.

313 4.3 Working Group Charter

314 The first order of business for any working group is to create a charter that clearly describes the scope of their work. Brainstorming, fact finding, guest speakers and other enlightening activities often precede or coincide with Charter 315 316 development. In addition to scope, the Charter should define milestones and schedule, including an expiration date. 317 Extensions may be granted by the PWG Steering Committee, based on perception of progress and commitment of the working group. In some cases the working group may choose to publish their standard in affiliation with an 318 outside standards organization such as the IETF or W3C. If this is evident, the Charter should indicate the desire for 319 320 formal affiliation with another standards organization and include a liaison plan with the other organization. Charter 321 definition, requirements gathering and outlining a preliminary Working Draft may occur simultaneously. In many 322 cases, this is encouraged, as new information gleaned from these activities may alter perception of the Charter. 323

324 <u>A Working Group Charter requires Formal Approval (see Section 1).</u>

325 4.4 Statement of Requirements

326 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 327 328 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 329 330 the completeness of the resulting specification. It is not necessary that the resulting standard meet every stated 331 requirement, but the standard should be explicit about which requirements it does not meet, and why. Requirements 332 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. 333 334 Often, at the beginning of a project, the Charter, Requirements and early versions of an initial Working Draft are all 335 undergoing simultaneous revision until a clear direction emerges and the Charter and Requirements are formally 336 approved. 337

338 <u>A Working Group Statement of Requirements requires Formal Approval (see Section 1).</u>

340 4.5 Working Draft

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 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 and agreement on details of the specification. The initial Working Draft should be reasonably complete 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.

- 352 A PWG Working Draft cannot progress ahead of any given normative reference that it contains.
- 354 <u>A PWG Working Draft requires Last Call, and Formal Approval to transition to PWG Candidate Standard.</u>

356 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:

- 359 Maturity: <keyword>
- 360

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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.

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Table 2 – Maturity Level keywords

Maturity Level keyword	Indicates			
Initial	Initial attempt to specify the standard.			
Interim Standard in development. Significant changes to the standard expected in the futur				
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.			

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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 current maturity level of a Working Draft will be decided upon by the working group.
- 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.

376 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 Candidate Standard should not be approved unless it is

signification of the standard standard standard standard standard standard standard standard standard forms the basis for supported by prototypes and thought to be ready for implementation. 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

381 development and interoperability testing. Implementations can comfortably proceed from a PWG Candidate

- Standard, knowing that it will not undergo significant change as it matures to a PWG Standard. However, should
 changes to a Candidate Standard be necessary, these changes will be accomplished via Working Drafts that must
 once again go through Last Call and Formal Approval. The Working Draft will then and only then regain Candidate
 Standard status.
- Candidate Standards 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 Candidate Standards are always defining PWG
 Standard Version 1.0.
- When a document becomes a Candidate Standard, it is assigned an IEEE-ISTO standard number, which it keeps forever. To indicate the standard is at Candidate Standard status, the prefix "CS" is attached to the standard number, resulting in a number such as "PWG CS 5105.2". If the Candidate Standard goes back to Working Draft status, the prefix "CS" is replaced by "WD", resulting in a number such as "PWG WD 5105.2". IEEE-ISTO standard numbers are tracked and assigned by the PWG Secretary.
- 397 A PWG Candidate Standard cannot progress ahead of any given normative reference that it contains.
- 398 399

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

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403 **4.7 Standard**

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

408 **4.8 Extensions to standards**

When a document has reached the PWG Candidate Standard or PWG Standard status, documents can be written that are extensions to that standard. Such extension documents start immediately at Working Draft status and then follow all rules above for progression to Candidate Standard and Standard. Note that the extension to a Candidate Standard cannot progress to Standard before the Candidate Standard it is extending has progressed to Standard.

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

417 4.9 Best Practices

Best Practice documents, while not normative, are often heavily referenced during implementation. Because we want
Best Practice to be reliable and accurate we treat these as formal Working Group documents that under go naming,
Last Call and Formal Approval just like a Working Draft.

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422 **5** Informal supporting PWG documents

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

425 **5.1 White Papers and Technical Briefs**

426 During the standards process, PWG members are encouraged to document their proposals for various elements of a standard in a White Paper or Technical Brief. These documents provide an informal means of communicating 427 428 technical proposals among PWG members. It is strongly recommended that no item be opened for discussion on the 429 agenda of a PWG meeting without first having been documented and made available for review at least one week prior to the meeting where the paper is to be discussed. White Papers are particularly useful when two or more 430 431 approaches to a standard exist and need to be debated. White Papers may be updated to reflect group consensus or 432 individual positions on a particular topic. Since a white paper represents current thought and individual contribution, 433 they do not require any form of approval and have no formal status. White Papers and Technical Brief are subject to 434 change or withdrawal at any time. Other documents, such as Best Practices, Hints, Tips, Developer's Guides and 435 FAQ fall into the same category as White Papers and Technical Briefs. These documents should be posted to the 436 PWG FTP site and announced on the working group mailing list prior to discussion at a PWG meeting. Discussion 437 will be most fruitful when people have taken adequate time to review the papers prior to the meeting.

438

439 **6 Modifications to process**

To handle exceptional cases, the Steering Committee may decide that some or all of the steps in the standards process may be shortened or eliminated.

442 **7** Publication of PWG documents

443 All of the PWG standards-track and supporting documents described in sections 4 and 5 must be available in either 444 PDF or HTML format (others may be provided as well) and published on the PWG FTP site. Any document identified 445 as PWG Charter, PWG Requirements, PWG Working Draft, PWG Candidate Standard or PWG Standard represents 446 a formal PWG approved document, which will be published in a durable location with well-known path after achieving 447 the appropriate Last Call and/or Formal Approval. Listed are examples of the directory structure using v1.0 Standards as an example. In use, "wg" would be replaced by the abbreviation for a particular working group (ex. 448 449 pmp, psi, ipp etc.). Note the prefix conventions established for these documents as reflected in the file name prefix in 450 the examples below.

- 451 452 Charter – ftp://ftp.pwg.org/pub/pwg/wg/charter/ch-wg10-yyyymmdd.pdf
- 453 Requirements ftp://ftp.pwg.org/pub/pwg/wg/charter/rq-wg10-yyyymmdd.pdf
- 454 Working Drafts ftp://ftp.pwg.org/pub/pwg/wg/wd/wd-wg10-yyyymmdd.pdf
- 455 Candidate Standards <u>ftp://ftp.pwg.org/pub/pwg/wg/cs-wg10-yyyymmdd-510nm.pdf</u>
- 456 Standards ftp://ftp.pwg.org/pub/pwg/standards/std-wg10-yyyymmdd-510nm.pdf
- 457

458 Standards are not published in the Working Group path. PWG Standards are given a unique number and are
459 published in one, flat, namespace for ease of access.
460

461 Supporting documents (see Section 5) are posted in the root Working Group path or a subdivision of that path as 462 appropriate. Filename prefixes for common supporting documents are:

463 464 White Paper – wp

465 Technical Brief – tb

- 466 Developer's Guide - dg
- Best Practice bp 467
- 468 Hints and Tips - ht
- 469 FAQ – faq
- Last Call Review Comments Icrc 470 471
- 472 Internal working versions of PWG documents should be available in an agreed upon, widely available word 473 processing format, to provide for collaboration between document editors and contributors. For example, Microsoft 474 WORD and HTML are common revisable formats in use, today.
- 475

When documents are posted to the PWG FTP site, a notice should also be posted to the Working Group mailing list. 476 It is recommended that Working Groups provide a web site where information about their activities is provided. The 477 Web site should provide links to current, relevant documents. 478

7.1 FTP site procedures 479

480 below illustrates both the filename and the location on the PWG FTP site to be used for every version of a 481 document. Because it is not always straightforward for a reader to find the latest version of a document, an additional directory will be created on the FTP site for each working group, and the latest version of all documents 482 483 will be located there, with a durable URL. To go along with the example used in , the durable URL would be: 484 ftp://ftp.pwq.org/pub/pwq/xyz/xyz10-latest.doc

Therefore, for every row in, the new version of the document would be stored with the filename and location shown 485 486 in the table, and also would be stored with the filename and location of the durable URL.

487 488 An additional procedure to be followed on the FTP site is that in both the 'ftp://ftp.pwg.org/pub/pwg/candidates' and 'ftp://ftp.pwg.org/pub/pwg/standards' directories, an index file (index.txt) will be added that lists all standards 489 contained in the directory. Due to the fact that the files that correspond to published Candidate Standards and 490 Standards will remain in these directories forever, the index file will list the current status of each standard, so that 491 492 readers can realize at least the following: 493

- A Candidate Standard has been modified and is currently being worked on as a Working Draft.
- A Candidate Standard has transitioned to Standard.

A new version of a Standard is currently being worked on (e.g. version 1.0 of the Standard is in the FTP directory, but 495 496 version 1.1 is currently being worked on). 497

498 Issue-1a: Should we create a new directory ftp://ftp.pwg.org/pub/pwg/final that would contain specifications that have reached the "Standard" level in the PWG? The "final" directory would contain the complete, long file name of the 499 500 "Standard" level document. All documents that are at the "candidate" level will still go into the "candidates" directory. The "standards" directory will also be maintained with an exact copy of the latest, most advanced, official, version of 501 the document using the short name of the document. 502 503

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504	Directory:	File name:
505	ftp://ftp.pwg.org/pub/pwg/standards	pwg510nm.doc
506	<pre>ftp://ftp.pwg.org/pub/pwg/final</pre>	std-xyz10-20030820-510nm.doc
507	<pre>ftp://ftp.pwg.org/pub/pwg/candidtate</pre>	cs-xyz10-20030620-510nm.doc
508		
509		te a "grandfather" directory that contains exact
510	copies of all the documents in "stand	ards" that are there as a result of some previous
511	process (and NOT create the "final" d	irectory.
512		
513		and focusing PWG Process document strictly on how to publish
514	WD, CS and S.	

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In Filename	Х	Х	Х			Х		
In Path			X		(For WSDL)			
On title page	X	Х		X		Х	X	X
Publication	Spec Ver	Spec Doc Revision	Status	Maturity Level	WSDL Interface File / Ver	PWG Num	Document Filename *	Document Path
Working Draft	XYZ 1.0	2002/01/01	WD	Initial	2002/01/01	N/A	wd-xyz10-20020101.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/
Working Draft	XYZ 1.0	2002/01/15	WD	Interim	2002/01/15	N/A	wd-xyz10-20020115.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/
Working Draft	XYZ 1.0	2002/07/15	WD	Prototype	2002/07/15	N/A	wd-xyz10-20020715.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/
Working Draft - Last Call, Formal Approval	XYZ 1.0	2003/02/07	WD	Stable	2003/02/07	N/A	wd-xyz10-20030207.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/
Candidate Standard	XYZ 1.0	2003/02/21	CS	N/A	2003/02/07	PWG CS 510n.m	cs-xyz10-20030221-510nm.doc	ftp://ftp.pwg.org/pub/pwg/candidates/
Working Draft, no interface changes	XYZ 1.0	2003/03/01	WD	Prototype	2003/02/07	PWG WDWD 510n.m	wd-xyz10-20030301-510nm.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/
Working Draft, * interface change	XYZ 1.0	2003/03/15	WD	Prototype	* 2003/03/15	PWG WDWD 510n.m	wd-xyz10-20030315-510nm.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/
Working Draft, no interface change - Last Call, Formal Approval	XYZ 1.0	2003/04/15	WD	Stable	2003/03/15	PWG WDWD 510n.m	wd-xyz10-20030415-510nm.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/
Candidate Standard – Interop Last Call, Formal Approval	XYZ 1.0	2003/06/20	CS	N/A	2003/03/15	PWG CS 510n.m	cs-xyz10-20030620-510nm.doc	ftp://ftp.pwg.org/pub/pwg/candidates/
Standard	XYZ 1.0	2003/08/20	STD	N/A	2003/03/15	IEEE- ISTO STD 510n.m	std-xyz10-20030820-510nm.doc	ftp://ftp.pwg.org/pub/pwg/standards/

516 Table 4 - Sample flow of documents including versions and naming 517

518 * Note: In the filenames above, the substring "xyz10" is: [project][spec][version]. For version 1.0 of the main spec for the "xyz" project, the string

519 could be "xyz10" (that is, the [spec] part is left out). For all other specs created in the "xyz" project, the name would include the [spec] part; for

520 example, "xyzattr10" might be used if a separate document was detailing attributes for use in the "xyz" project.

522 8 Approval

523 8.1 Last Call

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524 Last Call represents a final opportunity for issues to be raised against a document. The WG Chair announces a Last 525 Call on a document with rough consensus of the working group. Last Calls are posted to all members of the PWG via the PWG-ANNOUNCE mailing list. A successful Last Call indicates a higher level of maturity during the development 526 of a Standard. The Last Call period may vary, based upon the content, complexity, holidays or other circumstances, 527 528 but must be at least 16 full working days (minumum 22 calendar days). A working day is a normal business day and 529 is considered to end at 10 PM USPST (Los Angeles, CA, USA). . Every Last Call must conclude at a PWG Plenary 530 meeting with an overview of the draft or standards document and a review of detailed issues and their resolutions. All 531 issues raised during Last Call must be either resolved or rejected as follows:

- Resolved Document updated to reflect the resolution
- Rejected No change required in the document

All issues and their resolution must be published in the Formal Approval announcement

537 8.2 Formal Review

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

540 8.3 Formal Approval

541 8.3.1 Formal Approval Process

542 Once all of the Last Call issues have been resloved or rejected, and Last Call has been reviewed by the PWG

543 Steering Committee, the PWG Secretary must announce a vote for Formal Approval to transition the document to 544 the next maturity level. Formal approval voting must be announced and conducted via the PWG-ANNOUNCE mailing 545 list and the announcement must contain all issues and their resolution which occurred during Last Call . The formal 546 approval voting period must last at least 16 full working days (minumum 22 calendar days).and may be longer at the 547 discretion of the WG Chair. A working day is a normal business day and is considered to end at 10 PM USPST (Los 548 Angeles, CA, USA).

- 549 The PWG Secretary will administer the Formal Approval process with the assistance of the working group chair and 550 the ISTO.
- 551 552 Formal Approval requires
- Quorum defined by as minimum of 25% of active eligible members actually casting a vote
- approval by 2/3 of those casting votes (abstentions do not count) with no strong opposition
- approval by 80% of those casting votes (abstentions do not count), in the face of strong opposition

558 Strong opposition occurs when one or more companies formally calls for an 80% vote. It is the responsibility of the 559 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 560 WG Chair decision, he or she can appeal that decision to the PWG Steering Committee (first) and then to the 561 membership of the PWG at large if necessary.

563 A no vote on a standards-track document requires the voter to state the reason for the no vote, and a description of 564 the changes that would be required to the document to turn the no vote to a yes. These will be documented on the 565 PWG-ANNOUNCE mailing list.

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567 Formal approval is not granted until the PWG Steering Committee reviews the process used to achieve Last Call and 568 Vote insuring the PWG process was followed with fidelity.

569 **8.3.2 Formal Approval voting rights**

- 570 The following voting rights policy applies to all Formal Approval voting:
- A voter must be a representative of a PWG Member Organization.
- Votes are counted on an organization basis.

576 8.3.2.1 Definition of quorum

577 For Formal Approval a quorum is necessary and is defined at 25% of eligible member companies actually casting a 578 vote.

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580 8.4 Publishing Of Approved Document

581 Documents that have passed Formal Approval must be edited by the PWG Secretary with the assistance of the WG 582 chair, to update the document number, format and the final publication date. The PWG Secretary must then publish 583 the document in the appropriate locations (see section XXX) with the appropriate file names.

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585 **8.5 Approval with a Working Group**

586 **8.5.1 Working Group approval process**

587 For technical issues, a 2/3 majority of those casting votes (abstentions do not count) is required. A simple majority of 588 those casting votes (abstentions do not count) is required to pass on administrative and operational issues.

589 **8.5.2 Working Group approval voting rights**

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

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

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612 8.6 Approval at a PWG Plenary

8.6.1 PWG Plenary approval process 613

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

615 8.6.2 PWG Plenary approval voting rights

- 616 The following voting rights policy applies to all voting done within the PWG plenary: 617
- 618 A voter must be a representative of a PWG Member Organization.
- 620 Votes are counted on an organization basis.
- 622 Plenary voting occurs at plenary sessions, so participation in the plenary is required for voting.
- 624 Voting is not a requirement for declaring rough consensus, unless specifically requested by a member with voting 625 rights.

Maintenance 9 626

- 627 Many PWG standards are extensible and provide the ability for additional keyword or enumerated values to be registered. When approved, these have the same status as the standard to which the feature is being added. In 628 629 addition, as implementation work proceeds, clarifications may be required to guarantee interoperability. This section addresses the process to be followed for: 630
- registrations of new operations and type 2 enums, keywords, and attributes, and 631 ٠
- 632 clarifications of the standard and any approved registrations
- 633 Major changes or additions to a standard are not considered maintenance, but require engagement of the PWG 634 standards development process described above. 635

Proposals for registrations and clarifications will follow the following process: 636

- 1. Each WG will appoint a Maintenance Editor for their PWG Standard. 637
- 2. Anyone can initiate a proposal for a clarification or registration by starting a discussion on the appropriate project 638 mailing list. 639
- 640 3. After there is some agreement on the mailing list for the need of a clarification or the suitability of a registration, the proposer and the standard's Maintenance Editor work out a proposal. Such a proposal should include: 641
 - Status of the proposal, including previous reviews.
 - ٠ A description of the requirement being met or the problem being solved.
 - Description of the proposed solution.
 - The exact text to be incorporated into the standard at some future date.
- 4. To make the status of proposed registrations and clarifications clear to PWG participants and others, the 646 Maintenance Editor will keep them in the appropriate sub-directory 647 648
 - ftp://ftp.pwg.org/pub/pwg/xxx/proposed-registrations
 - ftp://ftp.pwg.org/pub/pwg/xxx/proposed-clarifications
- 650 where xxx is the project.
- 651 5. All proposals must be published according to section 6 of this document.
- 652 6. Reviews of proposed registrations and clarifications may occur at a meeting or on the MAILING LIST.
- 653 7. The proposal will undergo sufficient reviews and updates until, in the opinion of the WG Chair, there is rough 654 consensus that the proposal is ready for Last Call as described in section 8.1 followed by Formal Approval as described in section 8.3. 655
- 656 If, in the opinion of the WG Chair, the Last Call discussions and Formal Approval meet the voting requirements 8. 657 described in section 1, the Maintenance Editor will move the approved registration or clarification to the 658 appropriate sub-directory for each project
 - ftp://ftp.pwg.org/pub/pwg/xxx/approved-registrations

- 660 ftp://ftp.pwg.org/pub/pwg/xxx/approved-clarifications
- and announce the Formal Approval to the entire PWG via the PWG-ANNOUNCE MAILING LIST. 661
- 662 **10** Periodically, the Maintenance Editor will incorporate the approved registrations and clarifications into the version 663 of the standard that the PWG keeps to record all approved registrations and clarifications. Such an updated
- 664 version of the standard will have a new minor version of the standard, along with a Change History Appendix that
- lists each change. PWG Semantic Model and Schema Extensions 665

666 The PWG Semantic Model and associated Schema are extensible and intended to be extended to meet the needs of the industry. When approved, these semantic elements or values have the same status as the PWG Semantic 667 668 Model and Schema. In addition, as implementation work proceeds, clarifications may be required to guarantee 669 interoperability. Section 9 covrs maintenance in general. This section addresses PWG Semantic Model and Schema 670 extension specific aspects.

- 671 The PWG Semantic Model and associated Schema are also vendor and site extensible (see below). These private
- 672 vendor and site extensions require no formal PWG approval process. It is recommended that vendor publish their
- extensions through the PWG and petition to make them PWG endorsed extensions. 673
- 674 Major changes or additions to a are defined as any changes that prevent upward and downward interoperability.
- Major changes require engagement of the PWG standards development process described above. 675

10.1 Federation of vendor extensions (Namespace) 676

677 Any vendor or site is permitted to extend the PWG Schema. Extensions are federated through the use of

- namespaces. Any new semantic element or value MUST be qualified by the extendor's namespace. The only 678 exception to this are the values for elements that have a specific pattern for extensions. The exceptions are 679
- MediaColor, MediaType, MediaSizeName, OperatingSystemName and OutputBin. Vendors are responsible for 680 managing their own namespace to prevent collisions. When an extension is approved by the PWG the element or 681
- value will be in the PWG namespace. 682

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The PWG's namespace for the Semantic Model Schema (i.e. http://www.pwg.org/schemas/sm/1.0/) is expected to 683 684 remain constant. The PWG Schema was designed as an Open Content schema. An open content schema is one 685 that allows instance documents to contain additional elements beyond what is declared in the schema. The PWG 686 Schema implements Localized Openness that allows extension at specific points. The namespace for the PWG 687 Schema needs to remain constant and change infrequently to foster deployment. The namespace for the PWG Schema will only change when ag major change is required that prevents upward or downward interoperability. 688 689 To accommodate minor updates each schema file contains the schema element with an attribute that specifies the

- 690 version. The version attribute will be incremented each time a PWG approved extension is added. Note that the
- 691 namespace does not change but by examining the schema file the exact version can be determined.

10.2 PWG Semantic Model and Schema Extension Process 692

- 693 Proposals for extensions will follow the following process:
- 1. Anyone can initiate a proposal for an extension by starting a discussion on the Semantic Model mailing list. 694
- 2. After there is some agreement on the mailing list for the suitability of the extension, the proposer creates a 695 696 proposal. Such a proposal should include:
 - Status of the proposal, including previous reviews. •
 - A description of the requirement being met or the problem being solved. •
 - Description of thenes semantic element(s) or value(s). •
 - The exact text to be incorporated into the PWG Semantic Model specification at some future date.
 - The exact XML Schema fragment to be included in the updated Schema
- 702 3. To make the status of proposed extensions clear to PWG participants and others, the Maintenance Editor will 703 keep them in the ftp://ftp.pwg.org/pub/pwg/sm/proposed-registrations sub-directory
- 704 4. All proposals must be published according to section 6 of this document.
- Reviews of proposed extensions may occur at a meeting or on the MAILING LIST. 705 5.

- The proposal will undergo sufficient reviews and updates until, in the opinion of the SM Chair, there is rough
 consensus that the proposal is ready for Last Call as described in section 8.1 followed by Formal Approval as
 described in section 8.3.
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 7. If, in the opinion of the SM Chair, the Last Call discussions and Formal Approval meet the voting requirements described in section 1, the Maintenance Editor will move the approved extension to the
- ftp://ftp.pwg.org/pub/pwg/sm/approved-registrations sub-directory and update the appropriate schema file.
 The SM Chair will announce the Formal Approval and updates to the entire PWG via the PWG-ANNOUNCE
 MAILING LIST.
- 8. Periodically, the Maintenance Editor will incorporate the approved extensions, registrations and clarifications into
 the PWG Semantic Model Specification. Such an updated version of the standard will have a new minor version
 of the standard, along with a Change History Appendix that lists each change.
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719 **11 Intellectual Property and Confidentiality**

720 **11.1 Ownership of IP rights:**

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

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

- All information and materials, and all copyrights thereto, contributed by Members and Associates and their
 representatives and incorporated into a PWG Standard and Specification (here after "the Standard") shall be owned
 by the contributing Member or Associate. The contributing Member or Associate shall grant PWG and its Members
 and Associates an irrevocable license to use, reproduce, modify, distribute and sublicense the copyrighted work(s)
 incorporated in the Standard on non-discriminatory basis and within reasonable terms and conditions.
 Notwithstanding the above, any intellectual property independently created by a Member or Associate, but not
 incorporated into a PWG standard, should remain the exclusive property of the original owner and no mandatory
- 737 license should be imposed.
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Participants in the standard setting procedure shall disclose any known patents whose use would be required for
 compliance with a proposed PWG standard. Prior to PWG's approval of the proposed standard, the PWG should
 receive a written patent statement from the patent holder as described below in section 11.3.

742 **11.2 Intellectual Property Procedures**

743 The PWG is not in a position to give authoritative or comprehensive information about evidence, validity or scope of 744 patents or similar rights, but it is desirable that any available information should be disclosed. Therefore, all PWG 745 members shall, from the outset, draw PWG's attention to any relevant patents (hereinafter defined) either their own 746 or of other organizations including their Affiliates (hereinafter defined) that are known to the PWG members or any of 747 their Affiliates, although PWG is unable to verify the validity of any such information.

- "Relevant Patents" means any issued or registered patent, without use of which a Proposed PWG Standard cannot be practiced.
- "Proposed PWG Standard" means each proposal towards each PWG specification, which proposal is submitted to PWG after the date of acceptance of these Procedures (hereinafter the Effective Date).

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"Affiliates or Associates," with respect to section 11.2, means any entity that as of the Effective Date directly or indirectly is controlled by the PWG member, so long as such control exists, where "Control" means beneficial ownership of more than fifty percent (50%) of the voting stock or equity in an entity.

756 **11.3 Patent Statement**

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

- (1) In the event the PWG Proposed Standard is adopted to become a PWG Standard, the patent holder waives his
 rights under the Relevant Patents owned by him and hence, the Proposed PWG Standard is freely accessible to
 everybody; no particular conditions, no royalties due, etc., with respect to such Relevant Patents. The PWG
 Standard means any PWG specifications that are officially published by PWG after October 1, 1999.
- (2) In the event a PWG Proposed Standard is adopted as a PWG Standard, the patent holder is not prepared to
 waive his rights under the Relevant Patents owned by him but would be willing to grant licenses to other parties
 on a non-discriminatory basis and on reasonable terms and conditions, provided a similar grant under the
 licensee's patents within the scope of the license granted to the licensee is made available. Such license grants
 are left to the parties concerned.
- (3) In the event the Proposed Standard is adopted to become a PWG Standard, and the patent holder is not willing
 to comply with the provisions of either paragraph 11.3 (1) or (2), in such a case the Proposal cannot be
 established as a PWG Standard.
- (4) Whichever option from among paragraphs 11.3 (1), (2) or (3) is chosen, any PWG member must provide a written statement to be filed on behalf of itself and its Affiliates at the PWG secretariat with respect to the Relevant Patents that are owned by the PWG member or any of its Affiliates and known to the PWG member or any of its Affiliates. This statement must not include additional provisions, conditions, or any other exclusion clauses in excess of what is provided for each case in paragraphs 11.3 (1), (2) and (3).
- (5) If no Relevant Patents that are owned by the PWG member or any of its Affiliates are known to the PWG
 member or any of its Affiliates, an affirmative disclosure to that effect must be submitted before the end of the
 Patent Statement deadline in lieu of the Patent Statement. Any Relevant Patents that are owned by the PWG
 member or any of its Affiliates and are found after the Patent Statement deadline are automatically subject to
 either paragraph 11.3 (1) or (2) as described above.
- 787 (6) Format of Patent Statement/Patent Notice
- A Patent Statement should be submitted by all the PWG members for all Relevant Patents which are known
 to the PWG members and their Affiliates and are owned by the PWG members or their Affiliate, providing the
 following information:
 - 1. Proposal Name
 - 2. Organization: The organization that holds the patent which could include administrations, universities, etc., and its contact address.
 - 3. Tel. No.: The contact telephone number of the organization.
 - 4. Fax. No.: The contact fax number of the organization.
 - 5. Patent Policy and Remarks: The declared patent policy of the organization in its communication to the PWG. Most often the patent policy is given as "Pat. Policy. 11.3 (2)", which would mean that the organization subscribes to paragraph 11.3 (2) of the PWG bylaws.
 - 6. Patent Title: The title of a patent
 - 7. Patent Number: The number of the patent.
 - 8. Patent Country: The country in which the patent has been obtained. If the patent is held in several countries, a list of those countries is given.
 - 9. Signature: Signature of an authorized representative of the company.

- 806
 807 (ii) Further, a Patent Notice should be submitted by all the PWG members for Relevant Patents which are
 808 known to the PWG members and their Affiliates and are not owned nor controlled by the PWG members or
 809 their Affiliate, providing the following information:
 - 1. Proposal Name
 - 2. Organization: The organization that holds the patent which could include administrations, universities, etc., and its contact address.
 - 3. Patent Title: The title of a patent
- 815 4. Patent Number
- 816
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 5. Patent Country: The country in which the patent has been obtained. If the patent is held in several countries, a list of those countries is given.
 - 6. Signature: Signature of a representative of the company
- All members must submit a written patent statement according to section 11.3(6) between the proposal deadline
 and the commencement of voting period.

822 **11.4 Non-Confidentiality.**

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

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

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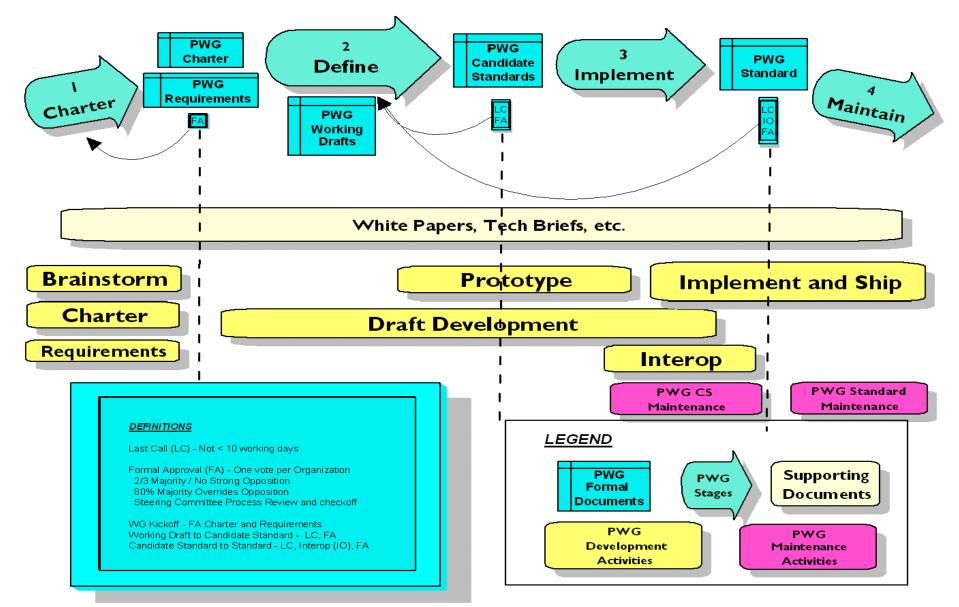
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12 PWG Process Diagram



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