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# The Printer Working Group

## PWG Policy

### Definition of the Standards Development Process



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**Version 2.0**  
**March 10, 2003**



# The Printer Working Group

## PWG Policy Definition of the Standards Development Process

**Version 2.0  
March 10, 2003**

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.

This version of the PWG Standards Development Process is available electronically at:  
<ftp://ftp.pwg.org/pub/pwg/standards/process/pwg-process20-20030310.pdf>, .doc

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

**89 About the IEEE-ISTO PWG**

90 The Printer Working Group (or PWG) is a Program of the IEEE Industry Standards and Technology Organization  
91 (ISTO) with member organizations including printer manufacturers, print server developers, operating system  
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  
94 work together better. All references to the PWG in this document implicitly mean "The Printer Working Group, a  
95 Program of the IEEE ISTO." In order to meet this objective, the PWG will document the results of their work as open  
96 standards that define print related protocols, interfaces, procedures and conventions. Printer manufacturers and  
97 vendors of printer related software will benefit from the interoperability provided by voluntary conformance to these  
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](mailto:pwg@pwg.org)

106 To subscribe to the PWG mailing list, send the following email:

- 107 1) send it to [majordomo@pwg.org](mailto:majordomo@pwg.org)
- 108 2) leave the subject line blank
- 109 3) put the following two lines in the message body:  
110 subscribe pwg  
111 end

112  
113 Members of the PWG and interested parties are encouraged to join the PWG Mailing List in order to participate in  
114 any discussions of clarifications or review of the PWG Process.

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## 152 1 Introduction

153 This document establishes the process that is followed as open industry standards are developed by the IEEE ISTO  
154 Printer Working Group. The Printer Working Group (or PWG) is a Program of the IEEE Industry Standards and  
155 Technology Organization (ISTO) and is an alliance among printer manufacturers, print server developers, operating  
156 system providers, network operating systems providers, network connectivity vendors, print and print management  
157 application developers chartered to make printers and the applications and operating systems supporting them work  
158 together better. All references to the PWG in this document implicitly mean “The Printer Working Group, a Program  
159 of the IEEE ISTO.” In order to meet this objective, the PWG will document the results of their work as open  
160 standards that define print related protocols, interfaces, procedures and conventions. Printer manufacturers, vendors  
161 of printer related software and the consuming public will benefit from the interoperability provided by voluntary  
162 conformance to these standards.

163  
164 A PWG standard is a specification that is stable, well understood, technically competent and has multiple,  
165 independent implementations with substantial operational experience, demonstrated interoperability and significant  
166 public support. The PWG may issue a standard as a PWG standard and/or when appropriate submit the standard to  
167 other standards organizations, such as the IETF, ISO, ITU, W3C, IEEE, or ECMA. In developing a standard, a  
168 working group of the PWG may define durable documents such as WSDL, Schema or common industry semantics  
169 that need to have well known, persistent filenames and file paths.

170  
171 This process document establishes

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

## 177 2 Organization of the PWG

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

188

### 189 2.1 PWG Officers

190 The PWG has a Chair position responsible for organizing the overall agenda of the PWG. The PWG chair is elected  
191 by a simple majority of the PWG members to a two-year term of office that begins on September 1<sup>st</sup>. Responsibilities  
192 of the PWG chair include creating working groups, appointing working group chairs, making local arrangements for  
193 PWG meetings (this may be delegated as appropriate), setting the high level PWG agenda, chairing the PWG  
194 plenary session, and assisting working group chairs to accomplish their tasks. The PWG Chair must be a  
195 representative of a PWG Member Organization. The PWG Chair is an ex officio member of all working groups.  
196

197 The PWG Vice Chair is elected by a simple majority of the PWG members to a two year term of office, beginning  
198 September 1<sup>st</sup>. The Vice Chair's responsibilities are to act in the absence of the chair and provide assistance to the  
199 Chair in carrying out his or her role, as required. The PWG Vice Chair must be a representative of a PWG Member  
200 Organization. The PWG Vice Chair is an ex officio member of all working groups.  
201

202 The PWG Secretary is elected to a two year term of office by a simple majority of the PWG members. It is the  
203 secretary's responsibility to record and distribute the minutes of all PWG plenary sessions and other meetings, as  
204 required, to support the PWG chair. The PWG Secretary must be a representative of a PWG Member Organization.  
205

206 The PWG Steering Committee is composed of the PWG chair, vice-chair, secretary, and chairs of all active working  
207 groups. The Steering Committee shall meet upon the call of the PWG Chair to discuss matters of concern of the  
208 PWG.

## 209 **2.2 Working Group Officers**

210 Under the PWG chair are a number of working groups (WG) which are chartered for the purpose of developing a  
211 specific standard. Working groups are chartered as required to address specific areas of standardization. A working  
212 group is considered active until it satisfies its charter.  
213

214 The Chair of a WG is appointed by the PWG Chair, with approval (simple majority) of the PWG. The WG Chair's term  
215 is indefinite and would normally extend through the period of time during which there is active maintenance on the  
216 standard(s) developed by the working group. The Working Group Chair must be a representative of a PWG Member  
217 Organization. The working group Chair is responsible for creating the WG Charter, setting the agenda for meetings  
218 of the WG, chairing WG meetings, appointing editors for WG documents, driving the work of the WG to completion,  
219 and reporting status of the WG at PWG plenary sessions.  
220

221 The Vice Chair of a WG is appointed by the WG chair, with approval (simple majority) of the WG. The WG Vice  
222 Chair's term is indefinite. The Vice Chair acts in the absence of the Chair and assists, as appropriate, in carrying out  
223 the responsibilities of the Chair.  
224

225 A WG secretary is appointed by the WG Chair, with approval (simple majority) of the WG. The term of office is  
226 indefinite. The responsibilities of the Secretary are to record and distribute minutes of working group meetings and to  
227 record, maintain, and publish the voting rights for members of that working group.

## 228 **2.3 PWG Meetings**

229 The annual face-to-face meeting schedule for the PWG is set in October of each year. As a guideline, meetings are  
230 to be distributed geographically, and should be held approximately every 6 to 10 weeks, as needed. Meeting  
231 location details are to be published at least 4 weeks in advance of meetings. Decisions made at PWG  
232 administrative, business, or plenary meetings require a simple majority, 1 vote per member organization.  
233

234 Much of the core work of the PWG working groups is accomplished via telephone and web enabled conferencing.  
235 This allows a reduction in cost of the overall standards development process by minimizing travel.

## 236 **3 PWG Standards development and maintenance**

237 There are 3 main phases to standards development in the PWG – Charter, Development and Maintenance (Table 1).  
238 These phases are a guideline to the activities and types of documents a working group should expect to encounter.  
239 There are not specific exit criteria from these phases. Exit criteria apply to PWG Standards documents and are  
240 outlined in section 4.  
241  
242  
243  
244

245

**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 s.a. WSDL, Schema
Maintenance	Maintain PWG Standard	Errata Registration of new keywords, enums	Standard Supporting durables

246

247 **4 Formal PWG standards-track publications**

248 Standards development is guided, largely, by the progression of documents used to define and articulate the  
 249 Standard. Formal documents consist of the Charter, a set of Requirements, Working Drafts, Candidate Standards  
 250 and, ultimately, the Standard, itself. Publication of these formal PWG standards-track documents requires Last Call  
 251 and/or Formal Approval (vote) by the membership of the PWG as described in Section 7. The standards process  
 252 may be augmented by a set of informal technical briefs and proposals reading on the standard. While helpful and  
 253 encouraged, these are not treated as formal documents and do not require formal approval. Standards-track  
 254 publications and the criteria for exit are defined below. Because the synchronization of Standard version, standard  
 255 document maturity, document naming, support file namespace and file path names can be quite complex, Table 2  
 256 provides an example of how these items are orchestrated throughout the standards process.

257 **4.1 Editing Documents**

258 The Working Group chair will appoint an editor for each standards-track document. The editor will be approved by a  
 259 simple majority vote of the working group. Normally an editor will work in this capacity throughout the life cycle of the  
 260 standard, although exceptions may occur. Editors are responsible for reflecting the decisions of the working group,  
 261 rather than their own personal views. Ultimately, the editor has responsibility for the quality of the document, making  
 262 sure that it is readable and has a coherent style, even when it has multiple authors or contributors.  
 263

264 **4.2 Working Group Charter**

265 The first order of business for any working group is to create a charter that clearly describes the scope of their work.  
 266 Brainstorming, fact finding, guest speakers and other enlightening activities often precede or coincide with Charter  
 267 development. In addition to scope, the Charter should define milestones and schedule, including an expiration date.  
 268 Extensions may be granted by the PWG Steering Committee, based on perception of progress and devotion of the  
 269 working group. In some cases the working group may choose to publish their standard in affiliation with an outside  
 270 standards organization such as the IETF or W3C. If this is evident, the Charter should indicate the desire for formal  
 271 affiliation with another standards organization. Charter definition, requirements gathering and outlining a preliminary  
 272 Working Draft may occur simultaneously. In many cases, this is encouraged, as new information gleaned from these  
 273 activities may alter perception of the Charter.  
 274

275 A Working Group Charter requires Formal Approval (see Section 7).



### 276 **4.3 Statement of Requirements**

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

288 A Working Group Statement of Requirements requires Formal Approval (see Section 7).

289

### 291 **4.4 Working Draft**

292 When rough consensus has been reached on the Charter, Requirements and general approach, and there is  
293 sufficient information to begin writing a standard, the initial Working Draft will be written. Charter and Requirements  
294 must be formally approved prior to completion of the first Working Draft. A PWG Working Draft facilitates reaching  
295 consensus on how to approach the PWG Standard and provides a backdrop for discussion and agreement on details  
296 of the specification. The initial Working Draft should be reasonably complete and drives a stake in the ground as the  
297 basis for further work on the Standard.

298 Working Drafts and Candidate Standards correspond to a specific version of the Standard they are defining. Unless  
299 the working group is engaged in an effort to revise an existing PWG Standard, the Working Drafts and Candidate  
300 Standards are always defining PWG Standard Version 1.0. As the definition of a PWG Standard matures, revised  
301 Working Drafts and Candidate Standards have their own versioning scheme. Working Drafts always begin at v0.01  
302 and increase toward v0.99 as they lead to Candidate Standard. The first Candidate Standard has a maturity level of  
303 v1.0.0. The process may iterate with Working Drafts and Candidate Standards, maturity increasing toward v1.0.x  
304 until the actual PWG Standard v1.0 is complete and approved.

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

306

### 309 **4.5 Candidate Standard**

310 When agreement has been reached among the participants about the details of a Standard, the current Working  
311 Draft is ready to transition to a PWG Candidate Standard. Formal approval of the first Candidate Standard coincides  
312 with maturity level v1.0.0 in the drafting process. A Candidate Standard should not be approved unless it is  
313 supported by prototypes and thought to be ready for implementation. A PWG Candidate Standard forms the basis for  
314 comments from outside of the working group and the PWG, and provides the foundation for initial product  
315 development and interoperability testing. Implementations can comfortably proceed from a PWG Candidate  
316 Standard, knowing that it will not undergo significant change as it matures to a PWG Standard.

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

319

### 321 **4.6 Standard**

322 When a PWG Candidate Standard has passed Last Call, demonstrated interoperability and acquired Formal  
323 Approval, it is promoted to the final status of a PWG Standard. At this point the Standard is assigned an IEEE ISTO  
324 standard number.

325 **4.7 Extensions to standards**

326 When a document has reached the PWG Candidate Standard or PWG Standard status, documents can be written  
327 that are extensions to that standard. Such extension documents start immediately at Working Draft status and then  
328 follow all rules above for progression to Candidate Standard and Standard. Note that the extension to a Candidate  
329 Standard cannot progress to Standard before the Candidate Standard it is extending has progressed to Standard.  
330

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

334 **4.8 Maturity Version**

335 Associated with each version of the document that specifies a prospective standard is a Maturity Version. The  
336 maturity version is meant to be a subjective indication of the maturity of the standard, and might be used to  
337 determine when a standard is ready for some activity, such as prototyping.  
338

339 In general, the maturity version begins at 0.01, progresses toward 0.99 while a Working Draft, then goes to 1.0.0  
340 when the first Candidate Standard is approved.

341 **4.8.1 Maturity Version before Candidate Standard**

342 The maturity version is mainly useful when it is less than 1.0.0, since that is when its value is most indicative of  
343 maturity. Here are some general guidelines for what values less than 1.0.0 indicate:  
344

<i>Maturity Version value</i>	<i>Indicates</i>
0.5	Overall direction and structure of the document is stable
0.7	Major work items and issues are close to resolution and completion
0.9	100% content complete; Small number of minor work items and issues; Document is ready for a “page-turner”—a proofreading session
0.95	Thorough proofreading procedure completed; All feedback received during review period has been processed

345 (Note that the table above is provided *only* as a guideline—the working group should use its discretion to determine  
346 the appropriate maturity version.)  
347

348 While the maturity version is less than 1.0.0, it can stay at the same value for multiple versions of a document. For  
349 example, in the period where (sometimes many) “last minute” updates are being made before Last Call, a document  
350 might be edited a number of times but stay at maturity version 0.99.  
351

352 **4.8.2 Maturity Version after Candidate Standard**

353 The maturity version of a document goes to 1.0.0 when becoming a Candidate Standard. At that point, the value  
354 increments to 1.0.1, then 1.0.2, and so on, as every new version of the document is created, whether or not  
355 substantive changes occurred in the document. Therefore, the maturity version will always change after a Last Call,  
356 if for no other reason than that the document will need to be updated to indicate the new maturity level attained.  
357

358 Issue 1: The description above seems to match our current thinking, but once you actually describe it in English, it  
359 seems strange that it acts totally differently after 1.0.0. In fact, is there *any* use for the maturity version after 1.0.0?  
360 What about this idea: we say that the maturity version is a pre-Candidate Standard concept—it is essentially a gauge  
361 of how close you are to Candidate Standard, and as such doesn’t exist anymore once Candidate Standard is  
362 achieved?

363 Issue 2: Do we want to say how the Maturity Version is actually indicated in a document? Is it just a title page thing,  
364 where we say something like “Version 0.9 of XYZ 1.0”? Do we maybe want to add another row, “On title page”, at  
365 the start of the table on the next page?

In Filename	X	X	X			X		
In Path			X		(For WSDL)			
<b>Publication</b>	<b>Spec Ver</b>	<b>Spec Doc Revision</b>	<b>Maturity Level</b>	<b>Maturity Version</b>	<b>WSDL Interface Namespace / Ver</b>	<b>PWG Num</b>	<b>Document Filename</b>	<b>Document Path</b>
Working Draft	XYZ 1.0	2002/01/01	WD	0.20	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	0.21	2002/01/15	N/A	wd-xyz10-20020115.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/...
Working Draft - Last Call, Formal Approval	XYZ 1.0	2003/02/07	WD	0.99	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	1.0.0	2003/02/07	N/A	cs-xyz10-20030221.doc	ftp://ftp.pwg.org/pub/pwg/candidates/...
Working Draft, no interface changes	XYZ 1.0	2003/03/01	WD	1.0.1	2003/02/07	N/A	wd-xyz10-20030301.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/...
Working Draft, * interface change	XYZ 1.0	2003/03/15	WD	1.0.2	* 2003/03/15	N/A	wd-xyz10-20030315.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	1.0.3	2003/03/15	N/A	wd-xyz10-20030415.doc	ftp://ftp.pwg.org/pub/pwg/xyz/wd/...
Candidate Standard – Interop Last Call, Formal Approval	XYZ 1.0	2003/06/20	CS	1.0.4	2003/03/15	N/A	cs-xyz10-20030620.doc	ftp://ftp.pwg.org/pub/pwg/candidates/...
Standard	XYZ 1.0	2003/08/20	STD	1.0.5	2003/03/15	510n.m	std-xyz10-20030820-510nm.doc	ftp://ftp.pwg.org/pub/pwg/standards/...

366 Table 2 - Sample flow of documents including versions and naming

## 367 **5 Informal supporting PWG documents**

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

### 370 **5.1 White Papers and Technical Briefs**

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

## 383 **6 Publication of PWG documents**

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

392  
393 Charter – <ftp://ftp.pwg.org/pub/pwg/wg/charter/ch-wg10-yyyymmdd.pdf>  
394 Requirements – <ftp://ftp.pwg.org/pub/pwg/wg/charter/rq-wg10-yyyymmdd.pdf>  
395 Working Drafts – <ftp://ftp.pwg.org/pub/pwg/wg/wd/wd-wg10-yyyymmdd.pdf>  
396 Candidate Standards – <ftp://ftp.pwg.org/pub/pwg/wg/cs-wg10-yyyymmdd.pdf>  
397 Standards – <ftp://ftp.pwg.org/pub/pwg/standards/std-wg10-yyyymmdd-510nm.pdf>

398  
399 Standards are not published in the Working Group path. PWG Standards are given a unique number and are  
400 published in one, flat, namespace for ease of access.

401  
402 Supporting documents (see Section 5.1) are posted in the root Working Group path or a subdivision of that path as  
403 appropriate. Filename prefixes for common supporting documents are:

404  
405 White Paper – wp  
406 Technical Brief – tb  
407 Developer's Guide – dg  
408 Best Practice – bp  
409 Hints and Tips – ht  
410 FAQ – faq

411  
412

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

416  
417 When documents are posted to the PWG FTP site, a notice should also be posted to the Working Group mailing list.  
418 It is recommended that Working Groups provide a web site where information about their activities is provided. The  
419 Web site should provide links to current, relevant documents.  
420

## 421 **7 Approval**

422 There are several forms of approval designed to assure integrity of the Standard as documents are promoted  
423 through the process. The application of these approvals are described in Section 4 and summarized in Table 2.

### 424 **7.1 Last Call**

425 Last Call represents a final opportunity for issues to be raised against a document. The WG chair announces a Last  
426 Call on a document with rough consensus of the working group. Last Calls are posted to all members of the PWG via  
427 the PWG-ANNOUNCE mailing list. A successful Last Call indicates a higher level of maturity during the development  
428 of a Standard. The Last Call period may vary, based upon the content, complexity, or other circumstances, but must  
429 be at least ten full working days. A working day is considered to end at 5 PM in NYC.

430  
431 All issues raised during Last Call must be answered in one of the following manners:

- 432 • Resolved - Document updated to reflect the resolution
- 433 • Resolved - No change required in the document
- 434 • Unresolved - Document will be approved as is

435

### 436 **7.2 Formal Approval**

437 Once all of the Last Call issues have been responded to, a vote is taken on approval of the resulting document and  
438 transition to the next maturity level. Formal approval voting must be announced and conducted via the PWG-  
439 ANNOUNCE mailing list. Each organization represented on the PWG has one vote. The formal approval voting  
440 period must last at least 10 full working days and may be longer at the discretion of the WG Chair.

441  
442 Formal Approval requires

- 443
- 444 • approval by 2/3 of those casting votes (abstentions do not count) with no strong opposition
- 445 • approval by 80% of those casting votes (abstentions do not count), in the face of strong opposition

446

447 Strong opposition occurs when one or more companies formally calls for an 80% vote. It is the responsibility of the  
448 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  
449 WG Chair decision, he or she can appeal that decision to the PWG Steering Committee (first) and then to the  
450 membership of the PWG at large if necessary.

451

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

455

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

458 **7.3 Voting Rights**

459 The following policy applies to all voting done within the PWG and its Working Groups:

- 460
- 461 • A voter must be a representative of a PWG Member Organization.
- 462
- 463 • Votes are counted on an organization basis.
- 464
- 465 • At times it may become necessary to conduct a vote on internal WG matters. If so, eligibility is determined by an  
466 organization attending two of the previous four meetings, where meetings include both face-to-face meetings and  
467 conference calls. It is the responsibility of the Secretary to maintain the list of eligible voters and post this in the  
468 meeting minutes. There is no history of attendance requirement, only a membership requirement, for voting at  
469 PWG Plenary meetings.
- 470
- 471 • With a simple majority vote, the working group may confer voting rights to an individual or organization that is not  
472 otherwise eligible to vote due to lack of attendance. This is done on a case-by-case basis and is intended to  
473 address those individuals or companies who have made significant, on-going contributions to the group – but  
474 have not been able to attend the required number of meetings. In no case may a representative of a non-  
475 member company be conferred voting rights by the action of a working group.
- 476
- 477 • A simple majority is required to pass on administrative and operational issues. Otherwise Formal Approval, as  
478 defined in section 7.2, is required on all voting.
- 479
- 480 • A working Group chair may declare that a sufficient quorum does not exist for voting purposes if at least 50% of  
481 voting members are not present during the vote.
- 482
- 483 • Voting is not a requirement for declaring rough consensus.

484 **8 Maintenance**

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

- 489 • registrations of new operations and type 2 enums, keywords, and attributes, and  
490 • clarifications of the standard and any approved registrations

491 Major changes or additions to a standard are not considered maintenance, but require engagement of the PWG  
492 standards development process described above.

493  
494 Proposals for registrations and clarifications will follow the following process:

- 495 1. Each WG will appoint a Maintenance Editor for their PWG Standard.
- 496 2. Anyone can initiate a proposal for a clarification or registration by starting a discussion on the appropriate project  
497 mailing list.
- 498 3. After there is some agreement on the mailing list for the need of a clarification or the suitability of a registration,  
499 the proposer and the standard's Maintenance Editor work out a proposal. Such a proposal should include:
- 500 • Status of the proposal, including previous reviews.
- 501 • A description of the requirement being met or the problem being solved.
- 502 • Description of the proposed solution.
- 503 • The exact text to be incorporated into the standard at some future date.
- 504 4. To make the status of proposed registrations and clarifications clear to PWG participants and others, the  
505 Maintenance Editor will keep them in the appropriate sub-directory  
506 <ftp://ftp.pwg.org/pub/pwg/xxx/proposed-registrations>  
507 <ftp://ftp.pwg.org/pub/pwg/xxx/proposed-clarifications>

- 508 where xxx is the project.
- 509 5. All proposals must be published according to section 6 of this document.
- 510 6. Reviews of proposed registrations and clarifications may occur at a meeting or on the MAILING LIST.
- 511 7. The proposal will undergo sufficient reviews and updates until, in the opinion of the WG Chair, there is rough
- 512 consensus that the proposal is ready for Last Call as described in section 7.1 followed by Formal Approval as
- 513 described in section 7.2.
- 514 8. If, in the opinion of the WG Chair, the Last Call discussions and Formal Approval meet the voting requirements
- 515 described in section 7, the Maintenance Editor will move the approved registration or clarification to the
- 516 appropriate sub-directory for each project
- 517 ftp://ftp.pwg.org/pub/pwg/xxx/approved-registrations
- 518 ftp://ftp.pwg.org/pub/pwg/xxx/approved-clarifications
- 519 and announce the Formal Approval to the entire PWG via the PWG-ANNOUNCE MAILING LIST.
- 520 9. Periodically, the Maintenance Editor will incorporate the approved registrations and clarifications into the version
- 521 of the standard that the PWG keeps to record all approved registrations and clarifications. Such an updated
- 522 version of the standard will have a new minor version of the standard, along with a Change History Appendix that
- 523 lists each change.

## 524 9 Intellectual Property and Confidentiality

### 525 9.1 Ownership of IP rights

526 All patents, copyrights, or other intellectual property owned or created by any Member or member's affiliates

527 (hereinafter "Member or Associate") outside the PWG or its work within the PWG shall remain the property of that

528 Member or Associate hereunder and shall not be affected in any way by the Member or Associate's participation in

529 the PWG.

530

531 The PWG may, through its activities, generate intellectual property, and license such property to the Members and/or

532 Associates on reasonable and nondiscriminatory terms, conditions and prices; provided, however, that Members and

533 Associates receive more favorable pricing than non-Members or non-Associates.

534

535 All information and materials, and all copyrights thereto, contributed by Members and Associates and their

536 representatives and incorporated into a PWG Standard and Specification (here after "the Standard") shall be owned

537 by the contributing Member or Associate. The contributing Member or Associate shall grant PWG and its Members

538 and Associates an irrevocable license to use, reproduce, modify, distribute and sublicense the copyrighted work(s)

539 incorporated in the Standard on non-discriminatory basis and within reasonable terms and conditions.

540 Notwithstanding the above, any intellectual property independently created by a Member or Associate, but not

541 incorporated into a PWG standard, should remain the exclusive property of the original owner and no mandatory

542 license should be imposed.

543

544 Participants in the standard setting procedure shall disclose any known patents whose use would be required for

545 compliance with a proposed PWG standard. Prior to PWG's approval of the proposed standard, the PWG should

546 receive a written patent statement from the patent holder as described below in section 9.3.

547

### 548 9.2 Intellectual Property Procedures

549 The PWG is not in a position to give authoritative or comprehensive information about evidence, validity or scope of

550 patents or similar rights, but it is desirable that any available information should be disclosed. Therefore, all PWG

551 members shall, from the outset, draw PWG's attention to any relevant patents (hereinafter defined) either their own

552 or of other organizations including their Affiliates (hereinafter defined) that are known to the PWG members or any of

553 their Affiliates, although PWG is unable to verify the validity of any such information.

554

- 555 • “Relevant Patents” means any issued or registered patent, without use of which a PWG Candidate Standard or  
556 PWG Standard cannot be practiced.
- 557 • “PWG Candidate Standard” means each proposal towards each PWG Standard, which is submitted to PWG  
558 after the date of acceptance of these Procedures (hereinafter the Effective Date).
- 559 • “Affiliates or Associates,” means any entity that as of the Effective Date directly or indirectly is controlled by the  
560 PWG member, so long as such control exists, where “Control” means beneficial ownership of more than fifty  
561 percent (50%) of the voting stock or equity in an entity.  
562

### 563 9.3 Patent Statement

564 When a proposal is submitted to the PWG, three different situations may arise with respect to relevant Patents and  
565 Patent applications:  
566

- 567 (1) In the event the proposal is adopted to become a PWG Standard, the patent holder or applicant waives his rights  
568 under the Relevant Patents owned by him and hence, the proposal is freely accessible to everybody; no  
569 particular conditions, no royalties due, etc., with respect to such Relevant Patents. The PWG Standard means  
570 any PWG specifications that are officially published by PWG after October 1, 1999.  
571
- 572 (2) In the event a proposal is adopted as a PWG Standard, the patent holder or applicant is not prepared to waive  
573 his rights under the Relevant Patents owned by him but would be willing to grant licenses to other parties on a  
574 non-discriminatory basis and on reasonable terms and conditions, provided a similar grant under the licensee's  
575 patents within the scope of the license granted to the licensee is made available. Such license grants are left to  
576 the parties concerned.  
577
- 578 (3) In the event the proposal is adopted to become a PWG Standard, and the patent holder or applicant is not willing  
579 to comply with the provisions of either paragraph (1) or (2), in such a case the Proposal cannot be established as  
580 a PWG Standard.  
581
- 582 (4) Whichever option from among paragraphs (1), (2) or (3) is chosen, any PWG member must provide a written  
583 statement to be filed on behalf of itself and its Affiliates at the PWG secretariat with respect to the Relevant  
584 Patents that are owned by the PWG member or any of its Affiliates and known to the PWG member or any of its  
585 Affiliates. This statement must not include additional provisions, conditions, or any other exclusion clauses in  
586 excess of what is provided for each case in paragraphs (1), (2) and (3).  
587
- 588 (5) If no Relevant Patents that are owned or applied for by the PWG member or any of its Affiliates are known to the  
589 PWG member or any of its Affiliates, an affirmative disclosure to that effect must be submitted before the end of  
590 the Patent Statement deadline in lieu of the Patent Statement. Any Relevant Patents that are owned by the PWG  
591 member or any of its Affiliates and are found after the Patent Statement deadline are automatically subject to  
592 either paragraph (1) or (2) as described above.  
593
- 594 (6) Format of Patent Statement/Patent Notice  
595
- 596 (i) A Patent Statement should be submitted by all the PWG members for all Relevant Patents and Patent  
597 applications which are known to the PWG members and their Affiliates and are owned by the PWG members  
598 or their Affiliate, providing the following information:  
599
  - 600 1. Proposal Name
  - 601 2. Organization: The organization that holds the patent which could include administrations, universities,  
602 etc., and its contact address.
  - 603 3. Tel. No.: The contact telephone number of the organization.
  - 604 4. Fax. No.: The contact fax number of the organization.
  - 605 5. Patent Policy and Remarks: The declared patent policy of the organization in its communication to the  
606 PWG. Most often the patent policy is given as "Pat. Policy. 9.3 (2)", which would mean that the  
607 organization subscribes to paragraph 9.3 (2) of the PWG bylaws.



- 608 6. Patent Title: The title of a patent  
 609 7. Patent Number: The number of the patent (if known).  
 610 8. Patent Country: The country in which the patent has been obtained. If the patent is held in several  
 611 countries, a list of those countries is given.  
 612 9. Signature: Signature of an authorized representative of the company.  
 613  
 614 (ii) Further, a Patent Notice should be submitted by all the PWG members for Relevant Patents and Patent  
 615 applications which are known to the PWG members and their Affiliates and are not owned nor controlled by  
 616 the PWG members or their Affiliate, providing the following information:  
 617  
 618 1. Proposal Name  
 619 2. Organization: The organization that holds the patent which could include administrations, universities,  
 620 etc., and its contact address.  
 621 3. Patent Title: The title of a patent  
 622 4. Patent Number (if known)  
 623 5. Patent Country: The country in which the patent has been obtained. If the patent is held in several  
 624 countries, a list of those countries is given.  
 625 6. Signature: Signature of a representative of the company  
 626

627 See <http://www.pwg.org/chair/pwg-loa.doc> for a link to the PWG Letter of Assurance for Essential Patents.  
 628

- 629 (7) All voting members must submit a written patent statement between the proposal deadline and the  
 630 commencement of voting period.  
 631

632 Issue 3 – Need to describe patent LOA deadline. W/G chair makes IP statement at beginning of every f2f meeting.  
 633 This keeps LOA in the forefront. If the WG is not having f2f meetings LOA is discusses in conference calls or e-mail  
 634 at a similar frequency (recommended every 60 days)

635 Issue 4 – Does this mean voting cannot proceed if someone has not submitted LOA?

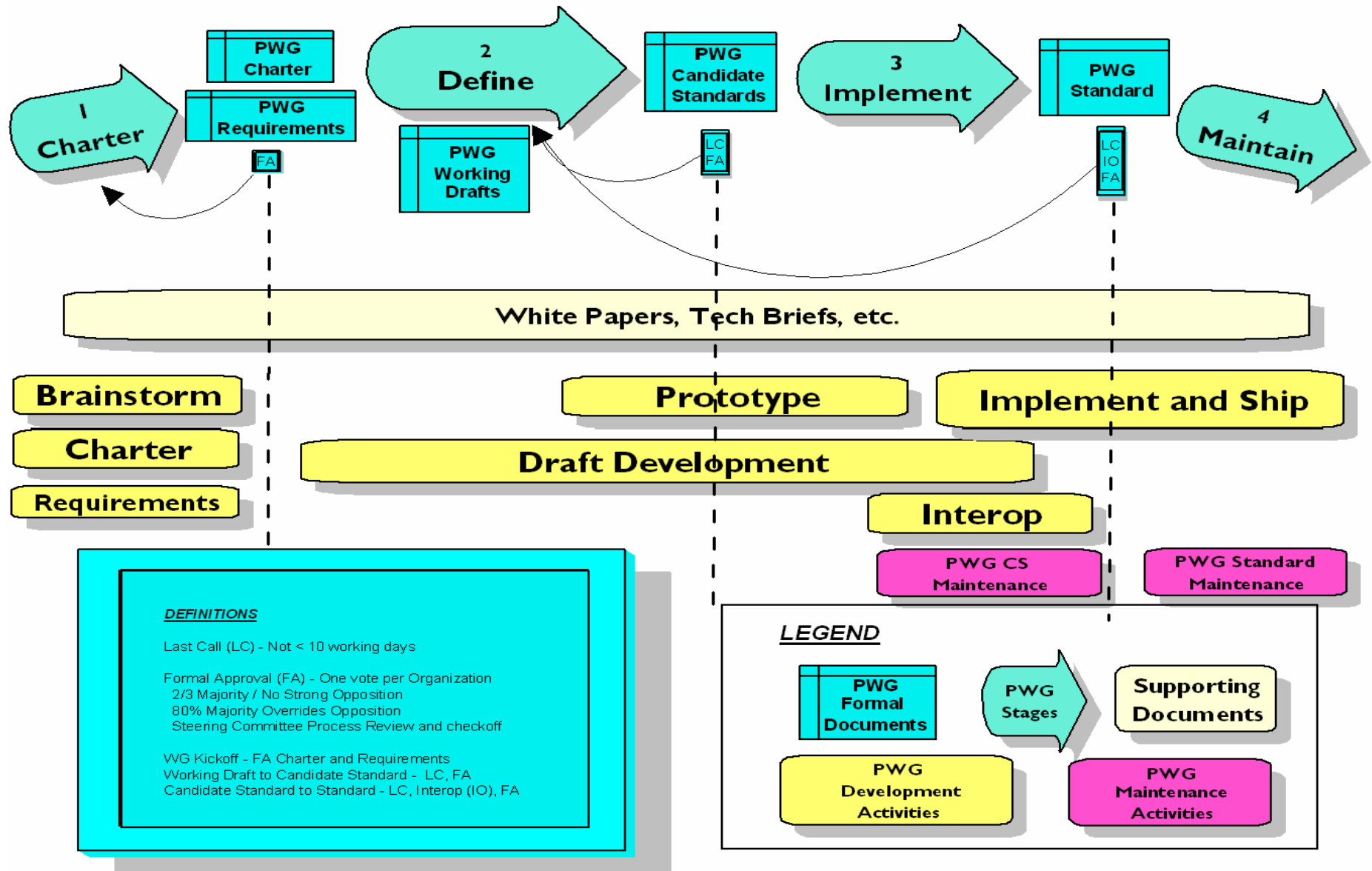
## 636 9.4 Non-confidentiality

637 The participation in the PWG by the Members and the Associates and their appointed representatives shall be on a  
 638 non-confidential basis; however, a PWG Member may with the approval of the Steering Committee, wherein such  
 639 approval shall not be unreasonably withheld, enter into written confidentiality agreements with all other PWG  
 640 Members which restricts the dissemination of specified confidential information and/or materials provided by any of  
 641 such Member, to Persons who are not Members or Associates.  
 642

643 Subject only to valid patents and copyrights, all PWG Members and Associates shall be free to use all information  
 644 received or publicly disclosed from the PWG, its Members or Associates in connection with the normal business  
 645 including the processes described herein, without obligation regardless of markings including but not limited to  
 646 “Proprietary” or “Confidential.”  
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664 **10 PWG Process Diagram**



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666 **11 Author's Address**

667 Dennis Carney  
668 IBM Printing Systems  
669 6300 Diagonal Highway  
670 Boulder, CO 80301  
671 Phone: 303 924 0565  
672 Fax: 303 924 7434  
673 e-mail: dcarney@us.ibm.com  
674

675 Harry Lewis  
676 IBM Printing Systems  
677 6300 Diagonal Highway  
678 Boulder, CO 80301  
679 Phone: 303 924 5337  
680 Fax: 303 924 7434  
681 e-mail: harryl@us.ibm.com  
682

683  
684 Additional contributors:  
685 Elliott Bradshaw, Oak Technology  
686 Dave Hall, HP  
687 Bill Wagner, NetSilicon  
688 Don Wright, Lexmark  
689  
690