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The Printer Working Group

PWG Semantic Model/Schema Extension and Revision Process

Version 0.03
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Abstract: This document defines the process that guides and controls the extensions and revisions of the PWG Semantic Model and associated Schema. This document covers both the formal extension of the Model and Schema by approved by the PWG as well as the process for private extensions by vendors or sites. Sections relating to Intellectual Property and Confidentiality are taken directly from the PWG Standards Development Process [PWG-Proc]. This is a process defining document, not an industry standard.

This version of the PWG Semantic Model/Schema Extension and Revision Process is available electronically at:
ftp://ftp.pwg.org/pub/pwg/standards/process/pwg-sm-process-20040304.pdf, .doc

About the IEEE-ISTO

The IEEE-ISTO is a not-for-profit corporation offering industry groups an innovative and flexible operational forum and support services. The IEEE-ISTO provides a forum not only to develop standards, but also to facilitate activities that support the implementation and acceptance of standards in the marketplace. The organization is affiliated with the IEEE (http://www.ieee.org/) and the IEEE Standards Association (http://standards.ieee.org/).

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About the IEEE-ISTO PWG

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 providers, network operating systems providers, network connectivity vendors, and print management application 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 Program of the IEEE ISTO." In order to meet this objective, the PWG will document the results of their work as open 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 standards.

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

For additional information regarding the Printer Working Group visit: http://www.pwg.org

Contact information:

Semantic Model Web Page: http://www.pwg.org/sm/
Semantic Model Mailing List: sm@pwg.org

To subscribe to the Semantic Model mailing list, send the following email:

1) send it to majordomo@pwg.org
2) leave the subject line blank
3) put the following two lines in the message body:

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subscribe sm
end
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Members of the PWG and interested parties are encouraged to join the Semantic Model Mailing List in order to participate in any discussions of clarifications or review of the PWG Process.

Implementers of the PWG Semantic Model specification and associated Schema are encouraged to join the Semantic Model Mailing List in order to participate in any discussions of clarifications or review of registration proposals for additional names. Requests for additional extensions, for inclusion in this specification, should be sent to the Semantic Model Mailing list for consideration.

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1 Introduction

This document establishes the process that is followed to extend or revise the PWG Semantic Model or its associated Schema. The Printer Working Group (or PWG) is a Program of the IEEE Industry Standards and Technology Organization (ISTO) and is an alliance among printer manufacturers, print server developers, operating system providers, network operating systems providers, network connectivity vendors, print and print management application developers 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 Program of the IEEE ISTO." In order to meet this objective, the PWG will document the results of their work as open standards that define print related protocols, interfaces, procedures and conventions. Printer manufacturers, vendors of printer related software and the consuming public will benefit from the interoperability provided by voluntary conformance to these standards.

The PWG Semantic Model and associated Schema specifies a stable, well understood, technically competent and has multiple, independent implementations with substantial operational experience, demonstrated interoperability and significant public support. In developing this standard, the Semantic Model Working group of the PWG defined durable documents covering the abstract Semantic Model and an associated Schema at persistent URLs.

This process document establishes

1. The maintenance stage of the PWG Semantic Model and associated Schema.
2. Versioning of the Semantic Model and Schema
3. The process for Public (i.e. PWG approved) and Private extensions to the PWG Semantic Model and associated Schema

This document can be updated and a new version can be produced following the Formal PWG Approval process.

1.1 PWG Semantic Model Meetings

It is common to hold face-to-face meetings every 6 to 10 weeks with phone and web based conferencing during the interim. Meeting location details are published in advance of meetings as are the agenda for the working groups that will meet. The Semantic Model will meet when warranted. New documents must be introduced at least a week prior to a face-to-face. Telephone and web based conferences are held as needed and announced on the Semantic Model mailing list. Decisions made at PWG administrative, business, or plenary 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.

1.2 PWG Semantic Model Communications Infrastructure

The PWG Semantic Model Working Group will maintain

1. A page on the PWG web site (http://www.pwg.org/sm) where the working group information, and document links and other pertinent information may be found.
2. A PWG ftp site (ftp://ftp.pwg.org/pub/pwg/Semantic-Model/) where PWG Semantic Model and associated Schema working drafts, standards, procedures, schema, templates and other useful and necessary documents may be accessed.
3. An e-mail reflector (sm@pwg.org), and an archive (http://www.pwg.org/hypermail/sm/) .

2 Overview of Maintenance and Extension

There are 3 main phases to standards development in the PWG – Charter, Development and Maintenance. The PWG Semantic Model and associated Schema are in the Maintenance phase. In this phase clarifications and errors that are discovered will be corrected and any extensions or registrations will be made. See the PWG Process specification [PWG-Proc] for the general maintenance process. Section 3 describes details on how the PWG Semantic Model and its associated Schema are extended
The Semantic Model Editor will be 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.

2.1 PWG Semantic Model Specification

The PWG Semantic Model Specification is expected to be updated from time to time. Minor updates must maintain upward and downward compatibility and require a minor version change. Updates that prevent upward or downward interoperability require a major version change and should occur rarely. Change requests will be discussed, approved and collected in a Working Draft until the Working Group feels it is time to revise the official specification. The details discussed below.

2.2 PWG Schema

The PWG Schema is expected to be extended and updated. Extensions can be made in private namespaces or in the PWG namespace. Details on this are below. The Schema contains a registry of PWG approved keywords. Any approved extensions will be immediately placed in the appropriate file. After approval and testing, the extensions will be incorporated into the Schema itself. As long as upward and downward interoperability are maintained the namespace for the Schema will not change. Each file contains an attribute that specifies its version. This version number will be incremented each time a change is made.

2.3 PWG Semantic Model and Schema relationship

The Semantic Model specification and the Schema are closely related. The elements and their values in the Schema are described in the Semantic Model Specification. Furthermore the Semantic Model Specification only provides a summary on the elements and values in the Semantic Model. The detailed description is provided in an external document and referenced in the PWG Semantic Model Specification. The external document can take many forms. Examples include PWG IPP Specifications, any standards body specification (e.g. IEEE, PWG, IETF, ISO, IANA), or a white paper or technical brief created specifically for the extension. Even a mail note is acceptable if it meets the criteria outlined in section 3.2. Note that mail notes, white papers and technical briefs will be collected into a single document to simplify semantic references when the Semantic Model specification is updated.

3 PWG Semantic Model and Schema Extensions

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 Model and Schema. In addition, as implementation work proceeds, clarifications may be required to guarantee interoperability.
The PWG Semantic Model and associated Schema are also vendor and site extensible (see below). These private 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.
Major changes or additions are defined as any changes that prevent upward and downward interoperability. Major changes require engagement of the PWG standards development process described in the he PWG Process specification [PWG-Proc].

3.1 Federation of vendor extensions (Namespace)

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 exception to this are the values for elements that have a specific pattern for extensions. Exceptions include MediaColor, MediaType, MediaSizeName, OperatingSystemName and OutputBin. Vendors are responsible for managing their own namespace to prevent collisions. When an extension is approved by the PWG the element or value will be in the PWG namespace.

The PWG's namespace for the Semantic Model Schema (e.g. http://www.pwg.org/schemas/sm/1.0/) is expected to remain constant. The PWG Schema was designed as an open content schema [XML-CHANGE]. An open content schema is one that allows instance documents to contain additional elements beyond what is declared in the schema. The PWG Schema implements localized openness that allows extension at specific points. The namespace for the PWG Schema needs to remain constant and change infrequently to foster deployment. The namespace for the PWG Schema will only change when a major change is required that prevents upward or downward interoperability.

To accommodate minor updates each schema file contains the *schema* element with an attribute that specifies the version. The *version* attribute will be incremented each time a PWG approved extension is added. Note that the namespace does not change but by examining the schema file the exact version can be determined.

3.2 PWG Semantic Model and Schema Extension Process

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.
2. After there is some agreement on the mailing list for the suitability of the extension, the Proposer creates a 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 the 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
3. The proposals (i.e. technical briefs/white papers) will be store (ZZZ add reference to white paper directory from PWG-Proc ZZZ)
4. All proposals must be published according to section (ZZZ add reference to PWG-Proc ZZZ)
5. Reviews of proposed extensions may occur at a meeting or on the MAILING LIST.
6. 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 (ZZZ add reference to PWG-Proc ZZZ) followed by Formal Approval as described in section (ZZZ add reference to PWG-Proc ZZZ).
7. If, in the opinion of the SM Chair, the Last Call discussions and Formal Approval meet the voting requirements described in section (ZZZ add reference to PWG-Proc ZZZ), the Maintenance Editor will move the approved extension to the ftp://ftp.pwg.org/pub/pwg/sm/ext sub-directory to make the status of proposed extensions clear. The appropriate schema file(s) will be updated.
8. The SM Chair will announce the Formal Approval and updates to the entire PWG via the PWG-ANNOUNCE MAILING LIST.
9. 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.

4 Intellectual Property and Confidentiality

Confidentiality, IP rights, Intellectual Property Procedures and Patent Statement policies are covered in the PWG Standards Development Process specification [PWG-Proc]. The Semantic Model maintenance and extensions conform to those policies.

5 References

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