



Printer Working Group

Semantic Model Work Group

Meeting Minutes

November 7, 2002
New Orleans, LA

1. Working Group Items

- The mailing list is active (sm@pwg.org)
- The Semantic Model web page is available. (<http://www.pwg.org/sm>)
- Weekly teleconferences are being held. (See mail list for details)

2. Semantic Model Document review

(Peter Zehler will make the changes and publish a new version of the document)

- The term "Attribute" in the model has been "XMLified" and replaced with the term "Element". This affects the semantic elements and the actions that act upon them. The IPP mapping section reflects the change.
- The PrinterState, JobState and DocumentState groups have been changes to use Status in place of State. This avoids a name conflict with the PrinterState, JobState and DocumentState elements within the groups.
- The primary difference between Status and Description elements is that automata control Status elements. End Users affect the Status elements indirectly through Actions such as a change to JobState through the CancelJob Action. End Users can set the Description elements though automata may update them when more reliable information is available.
- The subgroups of the Processing group are not needed and will be removed. All the elements in the subgroups will now be part of the Processing group.
- The ProcessingDefault, ProcessingSupported and ProcessingReady groups will be updated. These groups are members of the Printer.
 - The ProcessingDefault will use the types of JobProcessing and DocumentProcessing for its definition.
 - All the groups will be updated.
 - Do we need supported, ready and default values for Description and Status elements? Preliminary indications are that they are not needed.
 - The special Default and Supported elements that do not relate to the Processing elements will be identified. (These already exist in the model.) Their disposition will be resolved on the mail list and in the teleconference.
 - The semantic and syntactic issues around the Supported and Ready elements will be discussed on the mail list and in the teleconference.
- The support of the Document object in the model provides a mechanism to override document-processing instructions on a document-by-document basis. The use of the DocumentOverrides JobProcessing element is no longer required. The IPP Working Group will decide if a new document will be issued that only covers PageOverrides will be issued. (The current specification PWG5100.4 covers both overrides.)
- The GetPrinterElements, GetJobElements and GetDocumentElements semantics will not change. They deal with the retrieval of elements and their values. Each element is treated independently. (See next item.)

- We agreed that there is a need for the ability to query for capabilities. Capabilities includes determining the supported elements, the values they can take on, the dependencies between elements and between their values. Capabilities also include localization information that provides localized representations for the semantic elements, their well values and supporting information to explain the semantics or provide general help. This task will be worked separately and incorporated into the Semantic Model when documented.
- A consistency check will be done to insure tables, figures, and associated schemas are all in synch.

3. Schemas review

(Peter Zehler will make the changes and publish a new version)

- The schema will be updated to reflect the changes in the Semantic Model.
- Multi-valued elements will be represented by a single element in the object (e.g. JobStateReasons in Job) that is a sequence of a single optional unbounded element (e.g. Reason).
- All object consist of an ordered set of elements. This is the only way I know of to allow extensibility. Extensibility is accomplished via the #any element.
- Extensions are unordered and come at the end of the sequence of elements.
- Extensions for the allowed values for keyword elements are accomplished via a union. The union includes a base type that restricts the values based on a set of well known values and a pattern that restricts new values to specific format. The well-known values are specific to the semantic element. The pattern can be specific or general based on the extensions allowed for the semantic element. Many extensions are allowed as long as the extension is qualified with a namespace. Others, such as media, have a well defined format for new values.
- Post example instance document showing group, element and value extensions.
- There are still some schema structural issues that need to be addressed. The schema is valid. The problem is when the schema is used in WSDL files and multiple objects need to be used. An example would be when Job and Document are needed. The schemas that define these both include the “master list of semantic elements” (i.e. PwgSemanticElements.xsd). When the tools process the WSDL file and bring in the referenced schemas warnings are issued since the “master list of semantic elements” appears to be defined multiple times. (This is the same old problem you’ve seen with nested include files in ‘C’)

3. Semantic Model Process

(Peter Zehler will create a strawman proposal)

- We need to establish a process for semantic model extensions. Using a major version change for incompatible changes and minor version change for compatible addition.
- Namespace proposal is to use <http://www.pwg.org/schemas/project/version/> for the PWG Semantic Model that would be <http://www.pwg.org/schemas/sm/0.95/> I will check to see if naming is appropriate
- Schema files will be at Location http://www.pwg.org/schemas/project/version/*.xsd

4. Document Object

(Tom Hastings and Peter Zehler will follow up on issues)

- Find out level of support for Document Overrides. Investigate creating a new PWG document to supersede PWG5100.4. The new document will have only Page Overrides.
- Group pushed back on having CreateDocument and SendData as mandatory actions. This will be resolved on a teleconference.

- Concern was raised over indications that a Printer must be able to accept documents out of order. This will be resolved offline and on a teleconference.
- It was not clear if the DocumentNumber was mandatory or optional.
- Are DocumentNumber in a Job sequential and monotonically increasing starting at 1 for the first document? The specification should clarify this.

5. "-actual" attributes

(Dennis Carney will update spec to reflect decisions)

- Group decided, after much discussion, that the "-actual" attributes are multi-valued, that the "page-overrides-actual" attribute can be used for more accuracy, and that the "document-overrides-actual" attribute was not going to be prohibited. (See Tom Hastings' email to the SM reflector on 10/31/02.)
- Group agreed that the "-actual" concept was to be extended to the Document object.
- Group agreed that if Tom Hastings creates a new attribute in the Document object spec for the document-format that was detected by the Printer, it should be called "document-format-detected", not "document-format-actual".
- Group agreed that references in documents should be of the form [PWG5100.3] rather than [prod-print].
- Peter Zehler's proposal for how the "-actual" attributes would be done in the Semantic Model schema was accepted.

5. Participants

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