Strawman Requirements for
Media Size Self Describing Names
in
the PWG Media Standardized Names standard

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File: media-size-requirements-010509.doc
May 9, 2001

There are 6 issues highlighted like this.

The specification for the Media Size Self Describing Names in the PWG Media Standardized Names standard must meet the following requirements and non-requirements in order of decreasing importance and priority:

1. Be optimized for program to program communication of media sizes. Examples include the following Sender to Recipient Software scenarios: (1) from a Printer to Client Software, (2) from Client Software to a Printer, and (3) from a printer data description file to Client Software.

2. The syntax is not intended for use as internal representation within a program. (Programs will typically want to convert media sizes into a single system of internal units that is usually scaled integer values.)

3. Cover cut sheet media sizes. Roll size media is outside the scope of the standard.

4. Cover media sizes that are normally measured in English units and the media sizes that are normally measured in metric units. Only include the each name in its native units.

5. In the future, if some other units besides English and metric units need to be added to the standard (for new media sizes), be able to do so in a way that Recipient Software can detect that the units are neither English nor metric, if they need to determine the actual size. [This requirement was added at the Portland meeting.] Since Recipient Software code will need to be changed in order to handle such new units, the units should be baked into the ABNF and a new major revision of the standard produced if new units are introduced.

6. Be self describing, (1) so that Recipient Software that receives an unrecognized name, can still determine the intended size and (2) so that simple Recipient Software may be implemented without needing an internal media size table of recognized media sizes. Consequence: Media Size Self Describing Names have both a Media Size Name part and a Media Dimensions part.

7. Do not include two Media Size Self Describing Names that have the same Media Size Name. Indicate any such duplicate names as alias (common) name or Legacy Names.

8. Do not include two Media Size Self Describing Names that are the same size, i.e., have the same Media Dimensions value or are the same size in both English and metric units. For example, don't have two size names, where both Media Dimensions parts indicate 8.5 x 11 inches or one part indicates 8.5 x 11 inches and the other indicates 115.9 x 279.4 mm. The name is only standardized in the units of its normal usage.

9. Be able to disambiguate between two names that are otherwise the same, by the usual method to indicate the name space (naming authority, standards body, country, region of usage, or area of application), i.e., a high order part of the name. For example, ISO B4 and JIS B4 are different sizes. Also the F size and the ASME F size are different.
   ISSUE 01: Ok for some standard names not to have a high order part that indicates some name space, i.e., can we eliminate the "om-" and "oe-" prefixes for other metric and other english?

10. Be able to register additional Media Size Self Describing Names after the standard is approved. These additional names should not require any code change to programs that can handle the names in the first version of the approved standard. Be able to introduce new high order parts for new names, as the need arises, to identify these registered names. Implication: Since Recipient Software will not need to be changed, don't bake in the high order parts of the names into the ABNF, but just make them part of the Media Name part.

11. Standardize Media Size Self Describing Names, along with their Media Size Names that can be used in other existing standards, such as Appendix B “Media Sizes Names” of the Printer MIB, keyword values of the IPP/1.1 "media" Job Template attribute, and future standards, such as the MediaSize parameter in the UPnP Basic Print Template.

12. Design the syntax to facilitate Recipient Software parsing the Media Size Self Describing Name into a separate Media Size Name part and a separate Media Dimensions part, in order to recognize either part. Recipient Software need only do a straight string comparison to see if it recognizes the Media Dimensions part; it need not perform any unit conversion, rounding, or closest size match. Implication: the numbers in the Media Dimensions part need to have a canonical representation.

13. Design the syntax to make it easy for Client Software to parse the Media Size Self Describing Name into a separate Media Name part and a separate Media Dimensions part, in order for the Client Software to either (1) localize the Media Size Name part and/or (2) to convert the Dimensions part into the user's preferred system of units.

14. Design the syntax to make it easy for Client Software to present the Media Size Self Describing Name to users in its entirety, either because it is an unrecognized name or because the Client

Software doesn't want to have an internal media size table. Such a display is called a Fallback Display. Implication: the syntax should be human readable for most human languages.

15. Restrict the names to use the characters for IPP keywords (a-z, 0-9, -, ., _, and no spaces), so that the names can be used as keyword values of the IPP/1.1 "media" Job Template attribute. Furthermore, deployed IPP/1.1 Client Software can use their normal Fallback procedure for display of unrecognized keywords to users, namely, just present the entire keyword as the value.

16. It is outside the scope of the standard to specify which part takes precedence when Recipient Software receives a corrupted name, where the Media Name part doesn't agree with the Media Dimensions part, according to the names currently in the standard (or subsequently registered), or whether the Recipient Software MUST/SHOULD/MAY consider the request an error. Note: if the name starts with 'custom-', then the Recipient Software knows it isn't a standardized name. For example, if 'na-letter_9x13in' is received, does the Recipient Software assume that it is 8.5 x 11 inches or 9 x 13 inches or an error?
    ISSUE 02: Ok for the standard to say that it is IMPLEMENTATION DEPENDENT what Recipient Software does when it receives a Media Size Self Describing Name which has a Media Size Name part that disagrees with the Media Dimensions part? It can use the Media Size Name part, the Media Dimensions part, or treat the name as an error.

17. Provide a special syntax for a vendor, system administrator, or user to define a Custom Media Size Self Describing Name to send to Recipient Software, i.e., a name whose size is not in the standard (or has not been registered) and to optionally include a Media Name part as well. Allow such a Custom Size Name to be used anywhere a Media Size Self Describing Name can be used.
    ISSUE 03: Why does this have to be a special syntax, i.e., Media Size Name starts with "custom-"? Why can't a vendor, system administrator, or user invent a Media Size Self Describing Name and use it without the "custom-" prefix? What happens when a later version of Client Software sends newly registered media size names to an older Printer that only recognizes the names in our 1.0 standard? Does the client have to query the printer and use the "custom-" prefix for such a registered name, if it isn't in the Printer's supported list?

18. Provide a distinguished Custom Media Size Self Describing Name that indicates the smallest custom dimensions supported and another one to indicate the largest custom dimensions supported.

Outstanding issues for the Media Size Self Describing Names

The outstanding issues include (from Ron's D0.8 announcement):

ISSUE 04: Should the format of the Media Size Self Describing Name include the units? The meeting in Portland agreed not to include the units but the recent teleconference concluded that specifying the units was preferred. The Portland agreement uses the "class" name to provide an implied units. (See requirement 5).

ISSUE 05: Should the short dimension be separated from the long dimension by a hyphen ("-") or an "x"?
(See requirement 14).

ISSUE 06: How should the "class" (or "prefix") portion of those Self Describing Names that are not specified by a sanctioned standards body be defined? I have added "om" to those names that did not have a clearly defined "class".
There are three in Table 6 and five in Table 7. Also, Table 3 has an entry "na-asme-..." that could be justified with a class of "asme-" instead of "na".
(See requirement 9 and ISSUE 01)

Alternatives to meet the above requirements

At the Wednesday, May 2, telecon, we considered the following five alternatives:

a. original UPnP/HTML way (but with _ field separator): iso-a4_210x297mm, na-letter_8.5x11in
b. Maui (D03-D07) way: iso-a4.2100-2970, na-letter.8500-11000
c. Portland decision: iso_a4_210-297, na_letter_8.5-11
d. All 1000ths of mm: iso-a4.210000-297000, na-letter.215900-279400
e. Units as a separate third field: iso-a4_210-297_mm, na-letter_8.5-11_in

We reached an 8-0 consensus for alternative (a). At the earlier Portland meeting, Tuesday, April 24, we only considered alternatives b and c and had a 4-3 split with no strong feelings between either of the two.