Paper for Consideration by TSMAD/DIPWG

Potential Adjustments to S-100 Part 9 Portrayal

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Executive Summary:	This paper outlines some items discovered when working with S-100 Part 9 Portrayal
Related Documents:	S-100 Part 9 Portrayal
Related Projects:	S-101, S-100 Based Product Specifications

Introduction / Background

While working with S-100 Part 9 Portrayal specs in various contexts CARIS has identified some areas for consideration. A collection of items are discussed in this paper. Before going ahead with making redline changes and S-100 Part 12 proposals CARIS would like some consensus from the group or alternative approaches regarding these items.

Analysis/Discussion

Item 1: Identification and metadata for a standalone, named linestyle, area pattern or pixmap xml file.
Linestyles and area patterns may be defined inline as part of a drawing instruction but they may also be constructed as a dedicated file containing the definition and the file referenced from a drawing instruction. These files are added to the portrayal register and when referenced in a portrayal catalogue they are included in a dedicated folder within the portrayal catalogue. Each file included in the portrayal catalogue has a corresponding catalogueItem element in the "portrayal_catalogue.xml" file. The catalogue items carry an ID String optional description and the name of the corresponding file. The reference from a drawing instruction to the file is implemented using an ID String.

A sample of a registered line style file is included in Part 9 A-1.4.2.1

Sample Line Style

```xml
<?xml version="1.0" encoding="UTF-8"?>
<lineStyle xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="s100LineStyle.xsd">
  <intervalLength>6</intervalLength>
  <pen width="0.3">
    <color>#aabbcc</color>
  </pen>
  <dash>
    <start>0</start>
    <length>1</length>
  </dash>
  <dash>
    <start>2</start>
    <length>3</length>
  </dash>
  <symbol reference="bla">
    <position>3.5</position>
  </symbol>
</lineStyle>
```

The issue is that the xml structure for a registered line style, area pattern etc does not include an element or attribute with the ID of the line style and fields for metadata such as the domain, version, source, description. One option would be to add these as elements/attributes of the lineStyle element but they would not be used for line styles defined

within a drawing instruction and at the least the ID should be required for a registered line style. Another option would be to have a registered item container that carries the ID and associated metadata as well as a choice of one line style, area fill or pixmap element. There also needs to be some discussion about what meta data fields should be made available.

Item 2: Correction: result.xml file included in A-1.3.1 was not updated to match the schema changes made since the earlier draft.
A new result.xml needs to be prepared.

Item 3: Improvement: Offset used for dashes and symbols in a line style.
We should consider moving "offset" to an attribute of the dash and symbol elements of the LineStyle to avoid having to make a CompositeLineStyle when dashes or symbols need different offsets. Presently the offset is at the common level meaning that all the dashes and symbols in the line style will have the same offset.

Item 4: Correction: The pen for a linestyle
In LineStyle the pen element should either be optional or moved into an element of the dash as it does not apply to a symbol which contains it's own colours and pen definitions.

Item 5: Clarification/Improvement: Portions of lines that are too short for the linestyle.
What to do when the line feature or the remaining portion of the line feature after a series of patterns have been applied is shorter than the lineStyle? Should the pattern be used but truncated or should there be a reference to a fallback definition for short lines and leftovers. One option is to fill the gap with a default linestyle or dash pattern.

Item 6:Improvement: Named coverage drawing rules XML file
Need a coverage reference instruction to reference a separate XML file with coverage instruction definition. Need another folder in the PC directory for coverage style definitions.

Item 7: Improvement: Text Styles
Text Style/ text reference – like CSS class. To reference a style by name rather than having to repeat common parameters like font, size, slant etc in a lot of text instructions.

Item 8: Correction: Display planes are not sortable
Display planes lack indications as to how the display planes should be ordered in the drawing engine. Perhaps adding a unique sorting order number to each display plane definition in the register so that they can be sorted across product content.

Item 9: Improvement: Meta data fields needed in the Portrayal Catalogue xml
Base Portrayal Catalogue should have fields for 'Scope', 'Field of Application', 'Organization', 'Version' and 'Version Date'.

Item 10:Improvement: Updating of Portrayal Catalogues
Presently the entire Portrayal Catalogue would need to be replaced as one entity since there is no version information or updating structures defined.

Conclusions
As noted above, these items could be considered as corrections or improvements to the S-100 Part 9 Portrayal.

Action Required of TSMAD/DIPWG
The TSMAD/DIPWG is invited to:

      a.   discuss the items identified in this paper

      b.   record any follow on actions for the S-100 working group.