All Fields marked with * are mandatory.

Change Request #:	**106**
Assigned OGC Document #:	**10-143**
Name:	*Reinhard Erstling
Organization:	*interactive instruments GmbH
Email:	*erstling@interactive-instruments.de
Document Name/Version:	*Symbology Encoding Implementation Specification / 1.1.0
OGC Project Document:	*05-077r4

If this is a revision of a previous submission and you have a Change Request Number, then check here: ☐

Enter the CR number here:

Enter the Revsion Number that you are revising here:

Title:	*Reformulate specification on scale selection in Rules
Source:	*SLDSE.swg
Work item code:	
Category:	* D (Editorial modification)
Reason for change:	* The specification regarding scale selection in Rules is lengthy and hard to understand. Moreover, part of the text is at least misleading. A certain amount of rewording is also necessary because the next verion of WMS will introduce a PIXELSIZE parameter.
Summary of change:	* Reword the specification for scale selection in a way that clearly reflects the rules for scale determination from the viewing parameters and the explicitly given or assumed standard pixel size.
Consequences if not approved:	Continued existence of a specification, which is unnecessarily hard to understand and misleading.
Clauses affected:	* 10.2

Additional Documents affected:	
Supporting Documentation:	
Comments:	In my view the described things such as a 'scale denominator relative to a "standardized rendering pixel size"' and (consequently) an 'actual scale denominator' in contrast to a 'standard scale denominator' do not exist. Scale is the ratio of a length unit in the map and its equivalent on the ground. For example, 1:100000 means that 1cm on the map is equivalent to 100000cm=1000m=1km on the ground. The concept of scale has nothing to do with resolution; hence there is nothing such as a 'scale denominator relative to a "standardized rendering pixel size"'. Of course, given the mapping from a rectangular ground area to an equivalent array of pixels, you will require the size of a pixel to determine the scale. But this is it! You need not transform this scale to any other scale which is somehow 'based on a standard pixel size'. An example: Assume you see an SLD/SE-generated image of 600x600 standard-sized pixels on your screen. This will cover a square of 16.8cm x 16.8cm. Your client might have requested this by mapping a ground BBox of 6km x 6km to those 600x600 pixels. Hence a pixel will be equivalent to 6000m/600=10m on the ground. The scale denominator computed from this will be 10m/0.28mm=35714.3, and this scale will select some associated Rules. Now you want to make a hardcopy of this picture on your printer, which - for the sake of simplicity - we assume to have a resolution of 0.028mm x 0.028mm (ten-fold in both axes compared to 'standard' resolution). Hardcopy means: you want to see the same picture of size 16.8cm x 16.8cm with the same features on it and the same symbolization. Your client will then request a map with identical BBox (6km x 6km) and a ten-fold (in each axis) larger array of 6000x6000 pixels. The client will also carry the resolution information of the printer along in its request. The SE renderer will calculate the size of a pixel on the ground to be 6000m/6000=1m, and subsequently determine the scale denominator as 1m/0.028mm=35714.3. This scale denominator will select the same Rules as in the screen image case and this is exactly what you want because you want to see the same picture on your hardcopy. Of course, this will only work if the geometric items of the symbolization are given in a resolution independent way, such as mm. If we followed the rules of the SE specification the determined scale denominator would have to be rescaled by a factor of 0.28/0.028=10, which would result in a 'standard scale denominator' of 357143, which would select totally different Rules.
Status:	Assigned
Assigned To:	SLDSE 1.2 SWG
Disposition:	Reffered