



Report Title: An Investigation of Potential Methods for Topology Preservation in Interactive Vector Tile Map Applications	Date: 10.06.2012 Number of pages (incl. appendices): 109 Master Thesis <input checked="" type="checkbox"/> Project Work <input type="checkbox"/>
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Abstract:

Vector tiling is a new trend that the geospatial industry is likely to explore in coming years, bearing the promise of the advantages in clarity and interactivity afforded by vector data whilst also providing a cacheable and efficient solution akin to raster tiles. An important question is then to ascertain how one might ensure that topological metadata is preserved across tiles; i.e. how does one convey the fact that two lines on adjacent tiles are in fact part of the same road?

This report aims to explore this question by assessing current vector tile solutions, and creating hypothetical solutions for a vector tile system that delivers tiles with topology preserved in line with the Simple Features Access Specification. Some of the most promising of these are selected for prototyping, and the prototypes are tested with regard to speed and functionality. Finally conclusions about suitable methods are drawn based on these tests. Furthermore, the suitability of using vector tiles for a Geographic Information System (GIS) application is discussed.

Keywords:

1. Vector Tiles
2. GIS
3. Web Maps
4. WFS