An Ontology-based Algorithm for Managing the Evolution of Multi-Level Territorial Partitions
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4.1 Matchings of territorial units

Which attributes may vary, in which proportion, before the entity loses its identity? 

Match?

ES62
ES63
ES63
ES64
Version V

(1) ES62
(2) ES63
(3) ES63

Iterations of the algorithm

Before K

After K

Uses relations between units in order to link changes through the TSN levels

4.2 Identifying clusters of changes

Builds through iterations two sets of units BeforeK and AfterK. Adds successively to the sets, units that intersect ones in the other version. Stops when one set (BeforeK or AfterK) remains identical between two iterations.

4.3 Linking changes through the levels

Identifies cluster of changes with the TSN level (changes after iteration K).

Result:

Automatize detection & semantic description of TSN changes: feature by feature + cluster of changes + chain of changes + 2 case studies

Europe - Nomenclature of Territorial Units for Statistics (NUTS) 4 versions, 4 levels, 7619 geographic units 122,000 resources describing European Units 39,306 resources describing matching and changes

Australia - Australian Statistical Geography Standard (ASGS) 2 versions, 4 levels, 5356 geographic units

WHAT’S NEXT? Geo-visualization of Territorial Changes Over Time on the basis of GitHub, Inc. initiatives