

SERVERLESS INFRASTRUCTURE TO MANAGE VECTOR AND TIFF DATA: PBF AND COGS

How to produce .pbf and COGs to create a serverless infrastructure to be used by a map client

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ABSTRACT: Classical SDI architectures have required a server for the dissemination of spatial information at vector and raster level. Typically, spatial information has been stored in a common repository that for the implementation of the different spatial information exploitation standards (WMS, WFS ...) has required the assistance of a spatial data server that implements these protocols. These protocols have allowed the exploitation of spatial information through the use of an API service oriented to the execution of operations on the server that have been returned to the mapping client to be interpreted. Iterating in this procedure, it is possible to visualize and exploit the spatial information without major problem.

With the evolution of technologies and the empowerment of navigators, new alternatives to the dissemination of spatial information in vector and raster format have appeared. Thus, navigators and devices have more than enough computational capacity to play a leading role in the exploitation of spatial information.

In this way, by means of an evolutionary leap in formats and infrastructures, it is already a reality to be able to exploit the data in the mapping clients autonomously by means of a serverless architecture that dispenses with a server that executes the calls to the data through OGC protocols.

Thus, at present, it is possible to conform an architecture serverless that allows the publication of spatial information to be exploited autonomously and independently by the mapping client, which accesses the data without the mediation of a server that consumes process capacity to resolve each of the requests necessary to manage spatial information.

This serverless architecture is based on .pbf and COG formats to serve vectorial information and images directly to the mapping clients and is based on the following standards and technologies:

- Vectorial information in .pbf format using the STAC and WFS3 architecture.
- Serverless raster information using COGs: Cloud Optimised Geotiffs
- Rendering of large amounts of information via WebGL in the browser.

This talk offers an overview of a full serverless architecture based on OpenSource

technologies.

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