Towards a WPS platform dedicated to an urban knowledge infrastructure
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Towards a WPS platform dedicated to an urban knowledge infrastructure

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I/ Context

This poster presents an implementation of the WPS (Web Processing Services) specification that provides specialized geographic analysis and processing tools to researchers, local authorities and private organizations and companies within IRSTV’s Spatial Data Infrastructure (SDI).

We present a descriptive meta-language that allows GIS specialists to WPS-enable their existing SQL processes and then push them within the WPS component of the SDI.

II/ Proposal

Exposing a SQL script as an online geoprocess using Web Processing Services (WPS)

```sql
CREATE TABLE buffered AS
SELECT ST_Buffer(the_geom, buffer_size) FROM input;
```

- Multiple inputs & outputs
- Multiple formats supported
- SQL Spatial: OGC Simple Feature SQL
- Vector and raster
- Custom functions (hydrology, noise maps, grid analysis...)
- Full support for OGC WPS 1.0

III/ Implementation

IV/ Use case

1. I want to compute a watershed
2. I write a SQL script
3. I publish it on a WPS server
4. I query the WPS process with my own data
5. I want to compute a watershed
6. I get the results in my desktop GIS

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CREATE TABLE filled AS SELECT ST_FullSinks(raster, 0.1) AS raster FROM dam_channels;
CREATE TABLE filled AS SELECT ST_Buffer(dam_channels, raster) AS raster FROM filled;
CREATE TABLE filled AS SELECT ST_Buffer(dam_channels, raster) AS raster FROM dam_channels;
CREATE TABLE filled AS SELECT ST_Buffer(dam_channels, raster) AS raster FROM dam_channels;
CREATE TABLE filled AS SELECT ST_Buffer(dam_channels, raster) AS raster FROM dam_channels;
CREATE TABLE filled AS SELECT ST_Buffer(dam_channels, raster) AS raster FROM dam_channels;