Natural Resources Canada — **Ressources naturelles Canada**

Surveyor General Branch

Beyond Boundaries **sgb.nrcan.gc.ca**

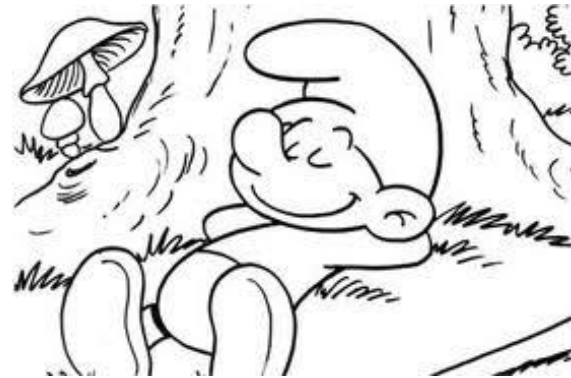# 3rd Generation Web Mapping REST Endpoints

July 6, 2014

By Gido Langen

Canada

The Mission

- REST Endpoints
  - Establish a network of REST endpoints
- Rationale
  - Effective way of providing web resources
  - Easy to work with the resulting info

REST Endpoints

- http://....

Re presentational (represents resources)
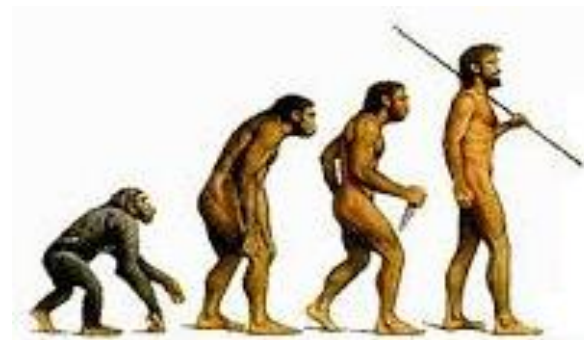S   state (all information such as login)
T   transfer (each request)

REST Endpoint Examples

- http://www.sample.com/phonebook/ UserDetails/12345
- http://www.sample.com/phonebook/ UserDetails?firstName=John &lastName=Doe

Presentation Outline

- Technological background

- First generation
- Second generation
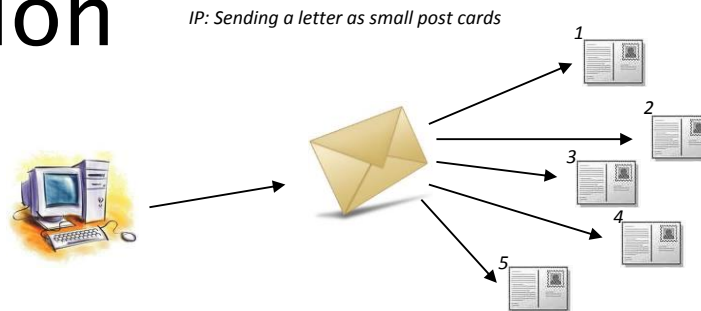- Third generation

- Conclusion

Technological Background

- ■ The three components of web mapping
  - - Web server
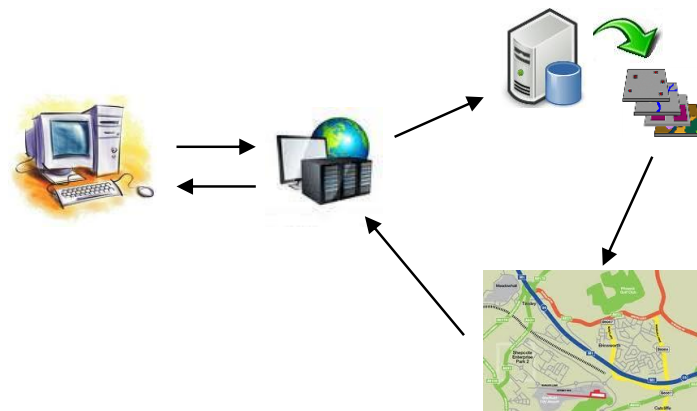 - - Map server
  - - GIS database

Technological Background 1

- **The web server**

  - Connections

  - Cumminication

TCP: The phone numbers of the Web

NAIT: 132.67.45.18

GC: 178.45.56.18

Localhost: 127.0.0.1

IP: Sending a letter as small post cards

1
2
3
4
5

Technological Background 2

- **The map server**
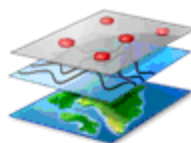 - GIS program

  - Input/output

Technological Background 3

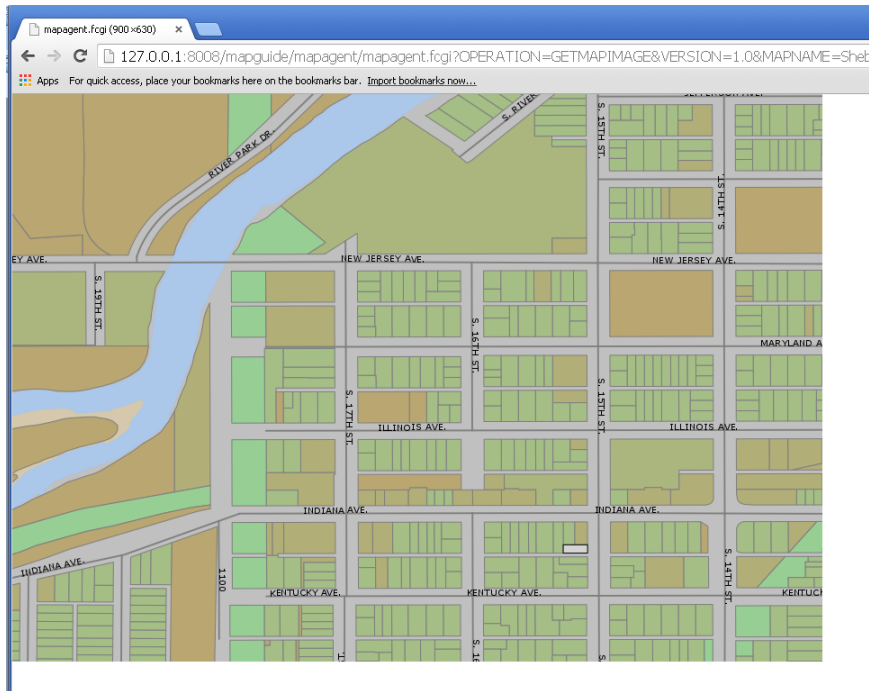- **The GIS database**
  - Database
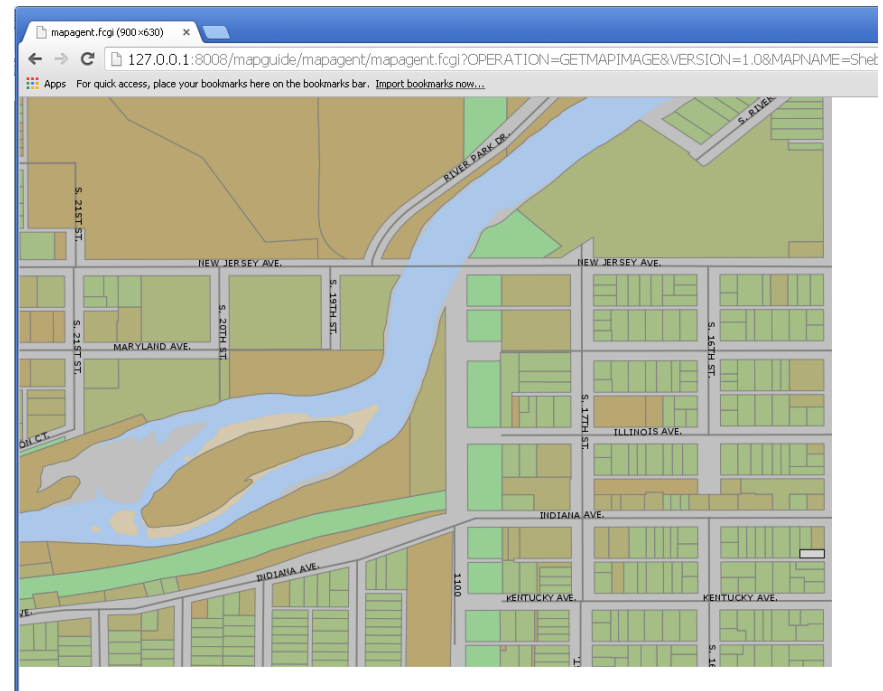 - Rendering mechanism

1st Generation Web Mapping

- ■ The laborious way

  - Transparent

  - Tons of programming

http://127.0.0.1:8008/mapguide/mapagent/mapagent.fcgi?
OPERATION=GETMAPIMAGE&   VERSION=1.0&
MAPNAME=Sheboygan&   LOCALE=en&
MAPDEFINITION=Library%3A%2F%2FSamples%2FSheboygan%2FMaps%2FSheboygan.MapDefinition&
FORMAT=PNG&
SETVIEWCENTERX=-87.73&   SETVIEWCENTERY=43.74&   SETVIEWSCALE=10000&
SETDISPLAYWIDTH=3000&   SETDISPLAYHEIGHT=2100

http://www.mapserver.web/mapping?
OPERATION = GETMAPIMAGE
SETX = -87.72
SETY = 43.74
SCALE = 5000

http://www.mapserver.web/mapping?
OPERATION = GETMAPIMAGE
SETX = -87.73
SETY = 43.74
SCALE = 5000

2nd Generation Web Mapping

- **More robust**
  - Commercial software tools
  - Faster tools, easier programming

3rd Generation Web Mapping

- The future is here
  - Faster and easier than ever
  - It's free
  - REST endpoints

Conclusions

- **Increased quality control**
  - Crowd sourcing
- **Faster response time**
  - Facilitate external dev.
- **Focus on core business**
  - Eliminate costly development