Open source WMS as an alternative

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Agenda

- Introduction (Planning portal, MapServer, WMS)
- Installation
- Creating applications
- Performance
- Conclusion

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The Planning portal

The Planning portal is a web service that supports physical planning, city- and countryside development and regional development planning.

The content of the portal is contributed by many authorities, statistics Sweden is one. The project consists of several iterations where the content grows and technology develops after time

What is Open source?

Open source refers to a program in which the source code is available to the general public for use and/or modification from its original design free of charge, i.e., open.

Open source code is typically created as a collaborative effort in which programmers improve upon the code and share the changes within the community.

WMS - Web Map Service

The OGC Standard defines three operations of a WMS:

- return service-level metadata
- return a map with well-defined geographic and dimensional parameters
- return information about particular features shown on a map (optional)

Workflow

The workflow setting up the WMS has been the following:

- Finding an Open Source solution that matches our needs
- Setting up Mapserver locally with demo data.
- Setting up Mapserver locally with Statistics Sweden's data.
- Publish Mapserver as a WMS on internet.
- (Compare with other softwares)

What isn't Map Server?

- A Desktop GIS!
- A Ready-To-Use Application
- Client-Based (e.g. isn't installed in your computer)
- Easy-To-Use, "Wizard" Configurable
- Expensive!

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What is Map Server?

- Developed by University of Minnesota
- Application Development System for Web-Based Mapping
- Server-Based
- Open Source
- Supports OGC Web Services Specifications
- *Fast*
- Extremely Configurable

- 10+ Active Developers Around The World
- 2,100+ Subscribers to MapServer-Users List
- 40,000+ Global Applications Deployed

Source Jeff McKenna

Installing Map Server

- Source Code / Install package
- Apache web server
- Demo application

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Features

- Advanced cartographic output
  - Scale dependent feature drawing and application execution
  - Feature labeling including label collision mediation
  - Fully customizable, template driven output
  - TrueType fonts
  - Map element automation (scalebar, reference map, and legend)
  - Thematic mapping using logical- or regular expression-based classes
- Support for popular scripting and development environments
- PHP, Python, Perl, Ruby, Java, and C#
- Cross-platform support
  - Linux, Windows, Mac OS X, Solaris, and more
- A multitude of raster and vector data formats
  - TIFF/GeoTIFF, EPPL7, and many others via GDAL
  - ESRI shapfiles, PostGIS, ESRI ArcSDE, Oracle Spatial, MySQL and many others via OGR
  - Open Geospatial Consortium (OGC) web specifications
    - WMS (client/server), non-transactional WFS (client/server), WMC, WCS, Filter Encoding, SLD, GML, SOS
- Map projection support
  - On-the-fly map projection with 1000s of projections through the Proj.4 library

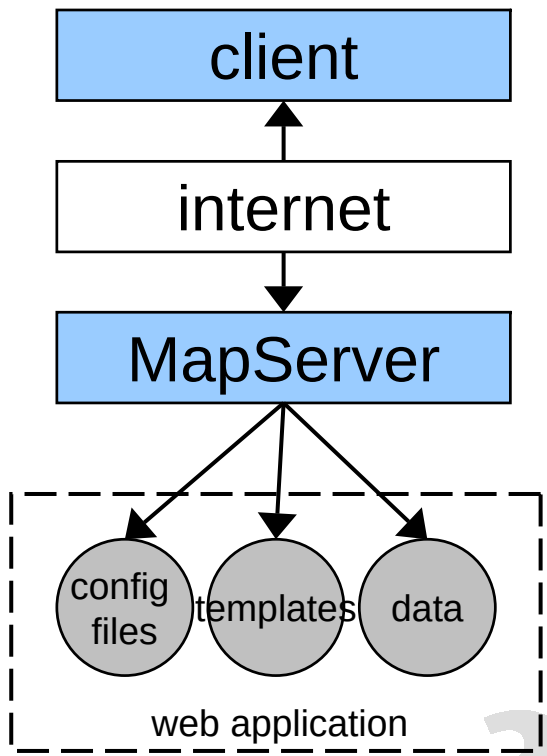
Creating Applications

- Mapfile
- HTML-Templates
- Data

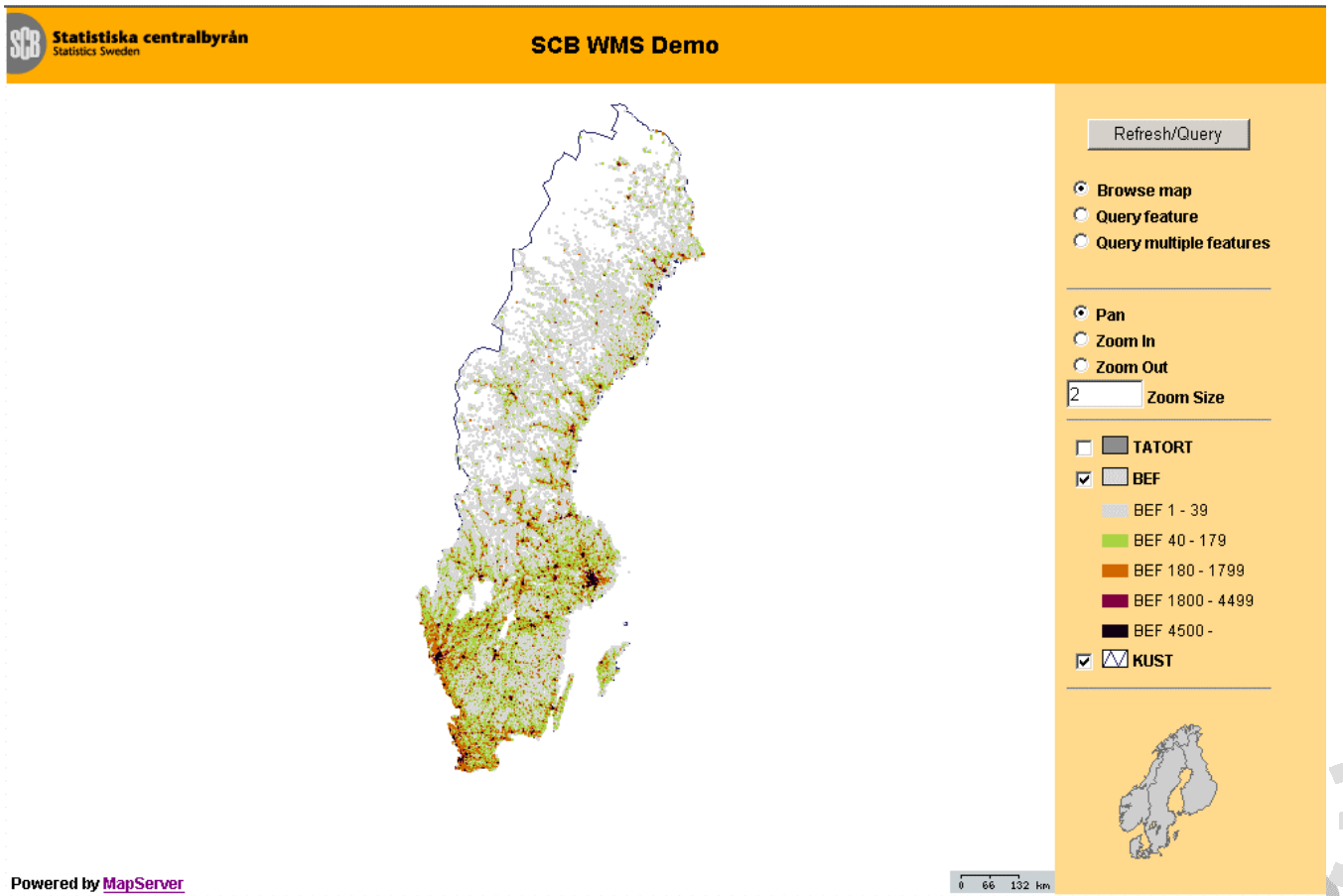
- WMS

 - configure Mapfile

 - client dependent param



Web browser interface



Web browser interface

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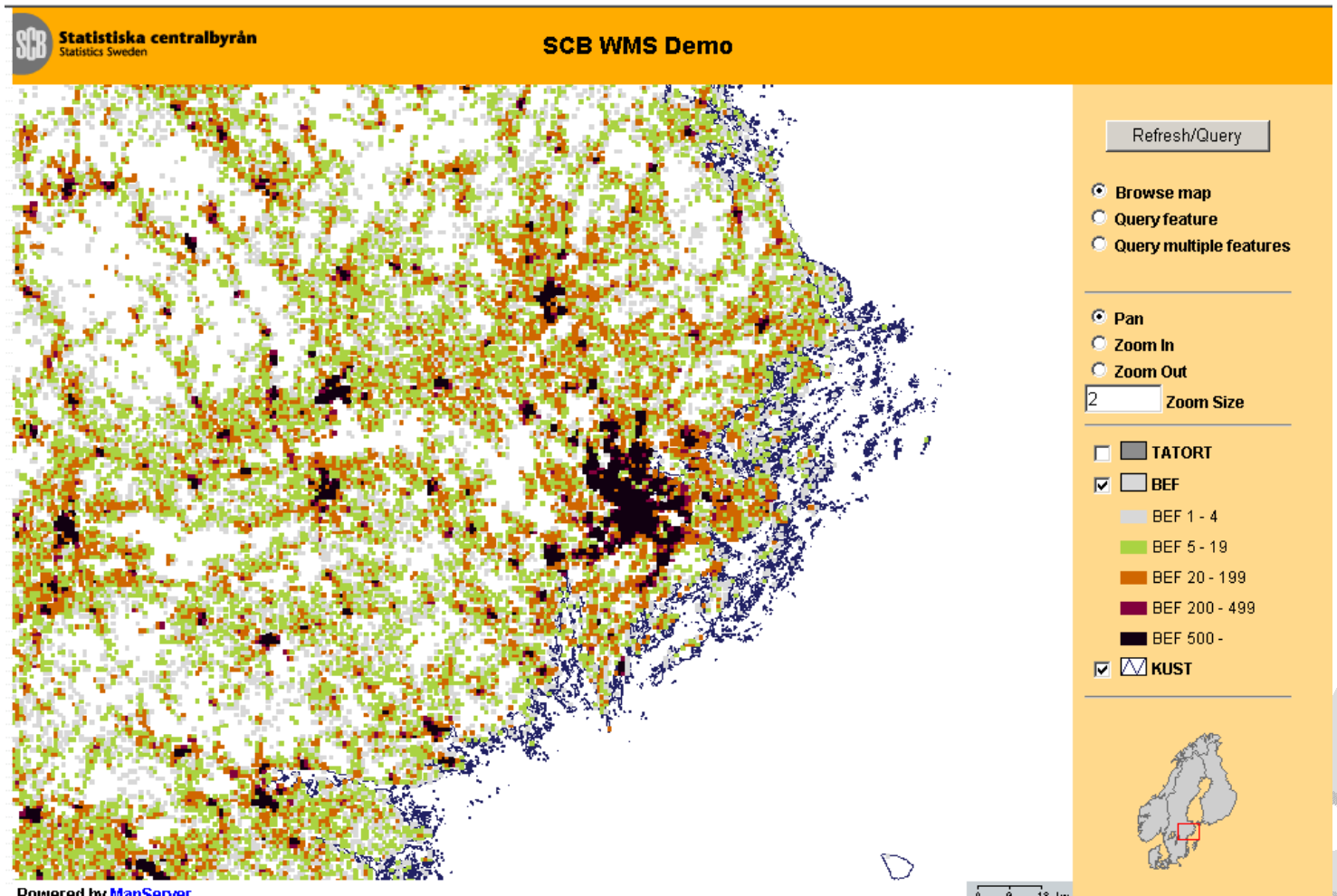

Web browser interface

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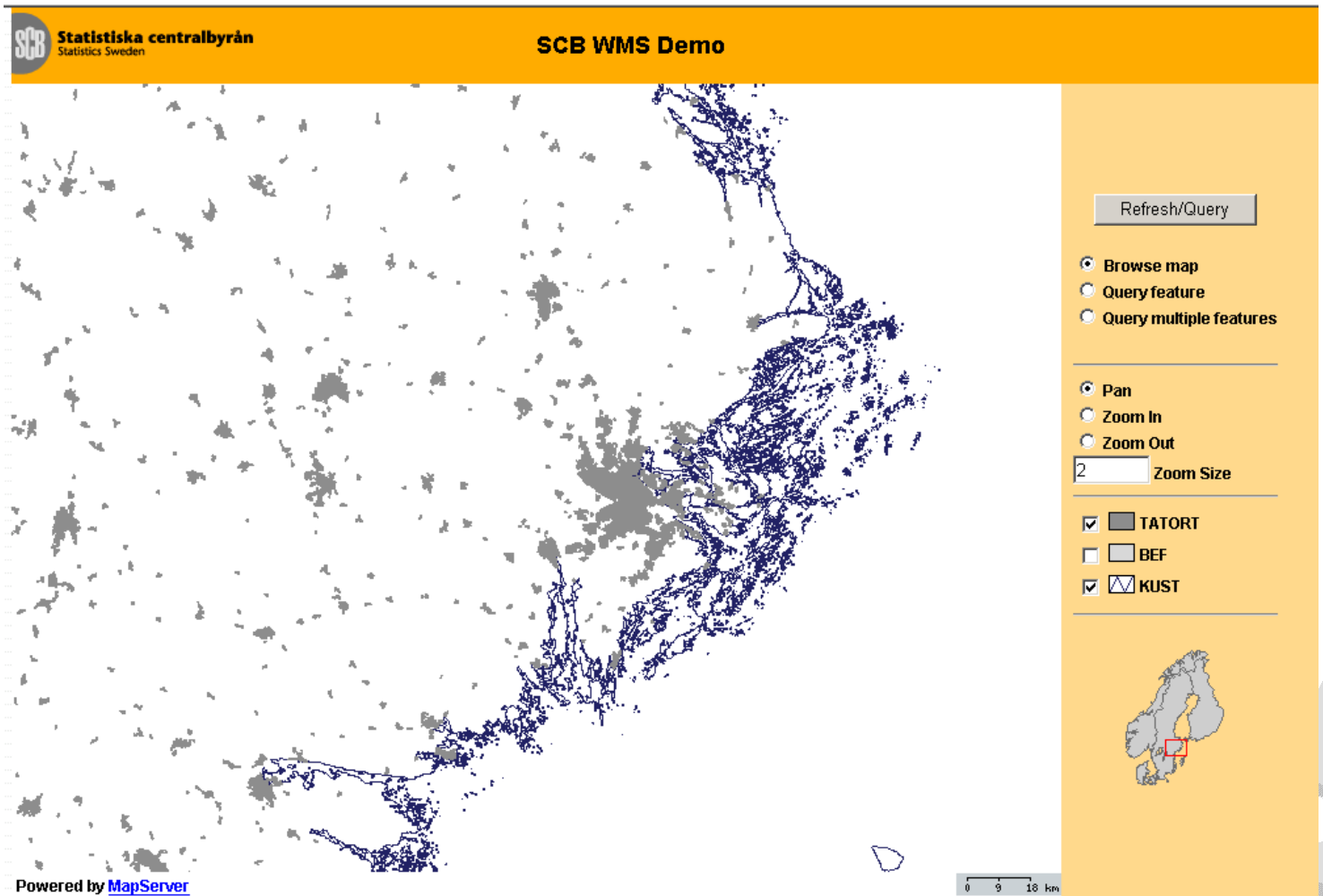

Web interface

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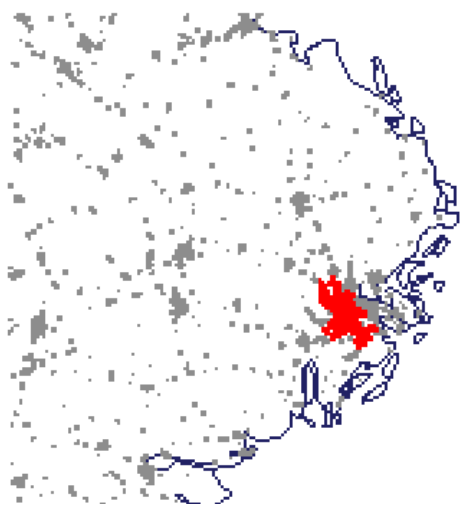
Query Details

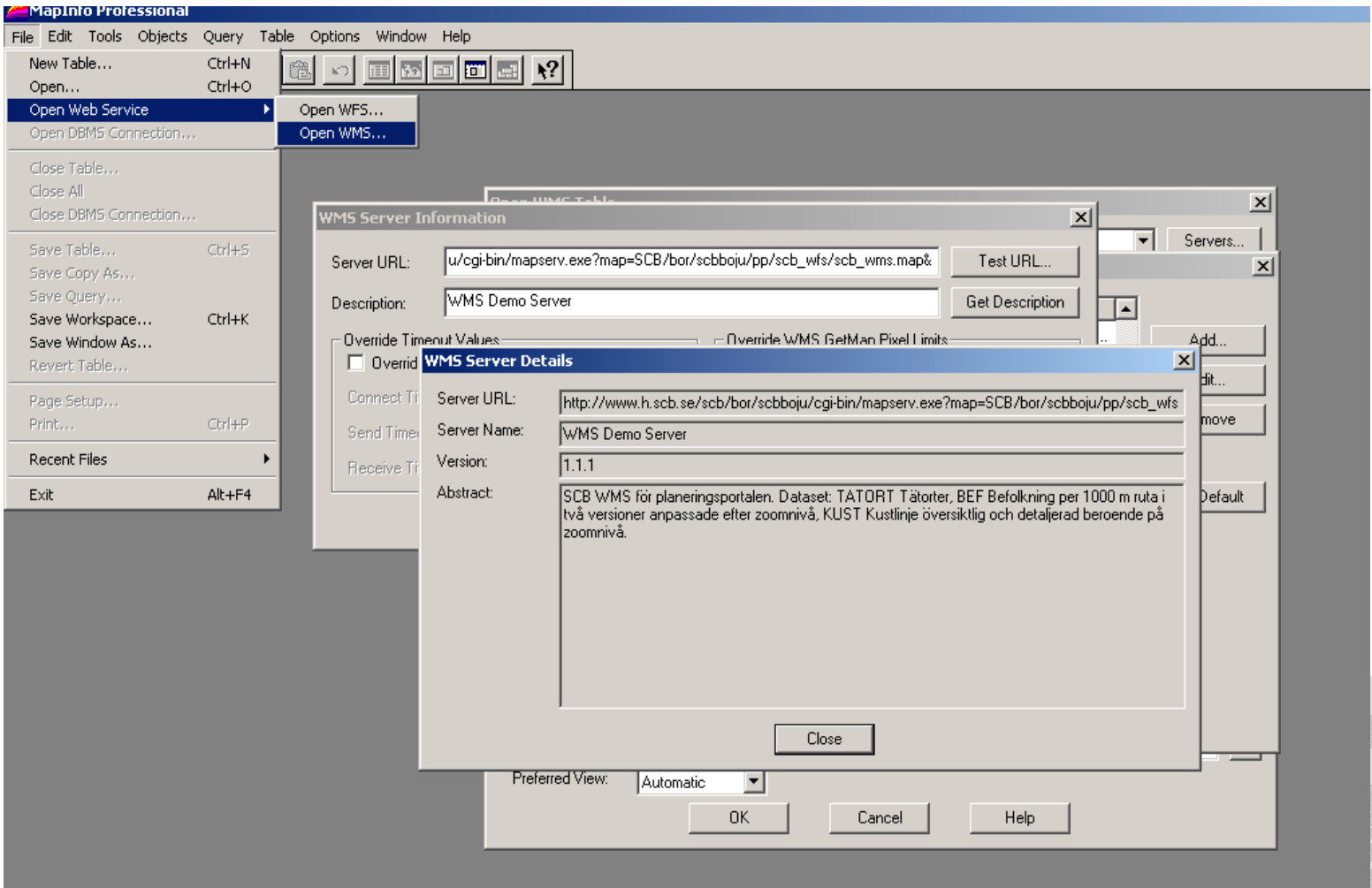
Bounding box	1450175.839063,6434849.014218,1751245.339063,6735918.514218
Image Coordinates	468, 315
Map Coordinates	1626301.496563, 6579738.711093
Number of results	1
Scale	4267129.075902
Cellsize	1505.347500

Query Results for Layer TATORT

Result	KOMMUN	NAMN	BEF
1	0180	Stockholm	1252020



WMS - interface



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Performance

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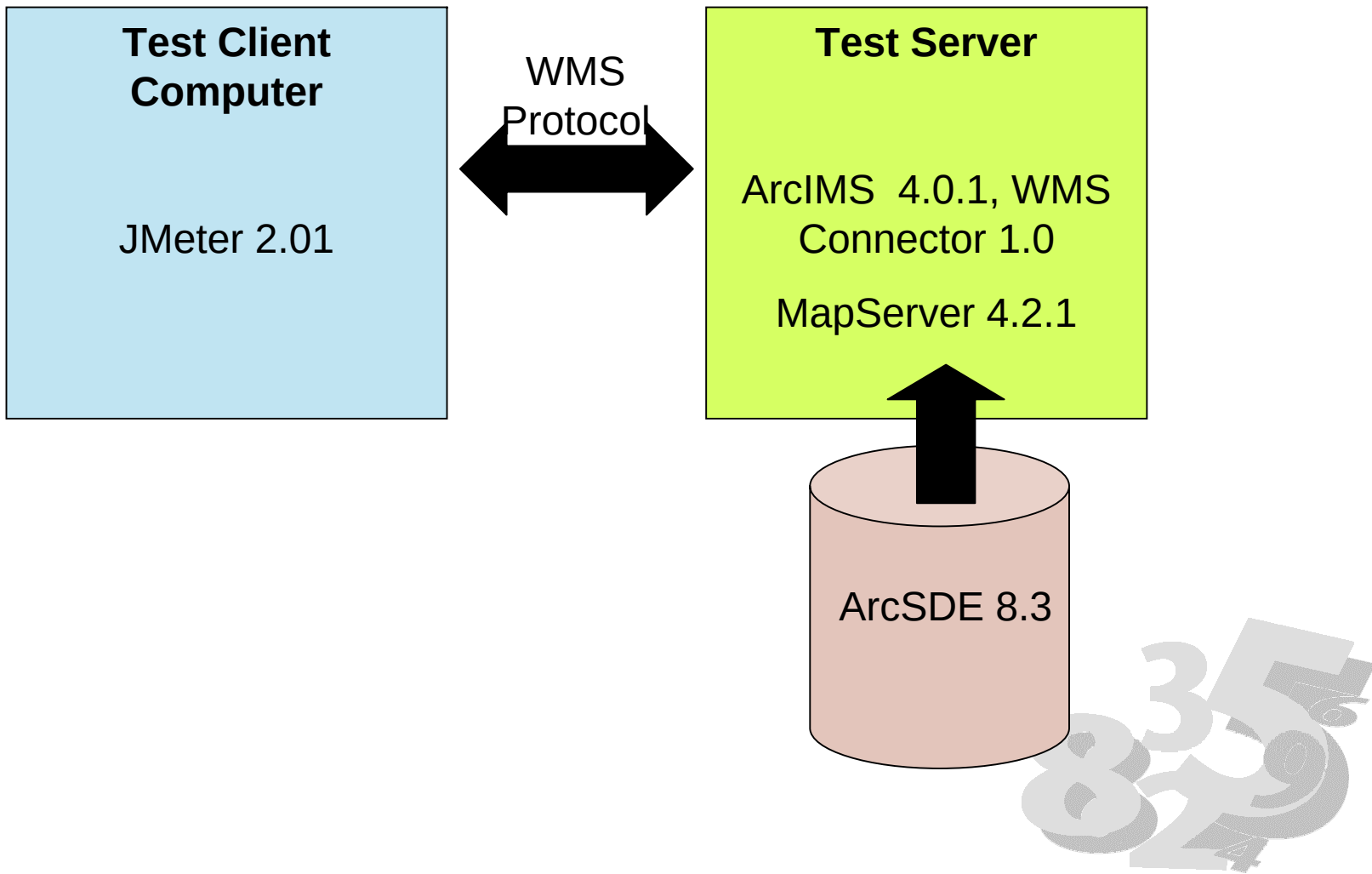
Study for British Columbia's Ministry of Sustainable Resource Management

- Use mostly ESRI products in their mapping infrastructure.
- Were frustrated with ArcIMS's administrative neediness.
- Were looking for WMS alternatives to ArcIMS.

Source: Brock Anderson, Refractions Research
www.refractions.net

Performance



Performance

Study for British Columbia's Ministry of Sustainable Resource Management

- MapServer is easier to administer than ArcIMS.
- MapServer is more WMS standard compliant than ArcIMS.
- MapServer matches or surpasses ArcIMS in most performance tests.

Source: Brock Anderson, Refractions Research
www.refractions.net

Difficulties

- Knowledge gathering
- Support
- Client specific parmeters

Coming attractions

- Performance improvents – Install the application on a faster webserver. Work more with formats, indexing, tiling, mm
- Comparison – Install our application in other software(s) and compare: performance, flexibility and administrative possibilities.
- The Planning portal - deliver content.

Conclusion

Is Open Source really an alernative ?

- Demanding
- Rewarding
- It is free and it works!
- Up to this point: yes!