ZOO project : An Open WPS Platform

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Welcome to the ZOO Tribe

What is ZOO ?

OSGeo softwares are useful for many GIS projects
but used in many different ways

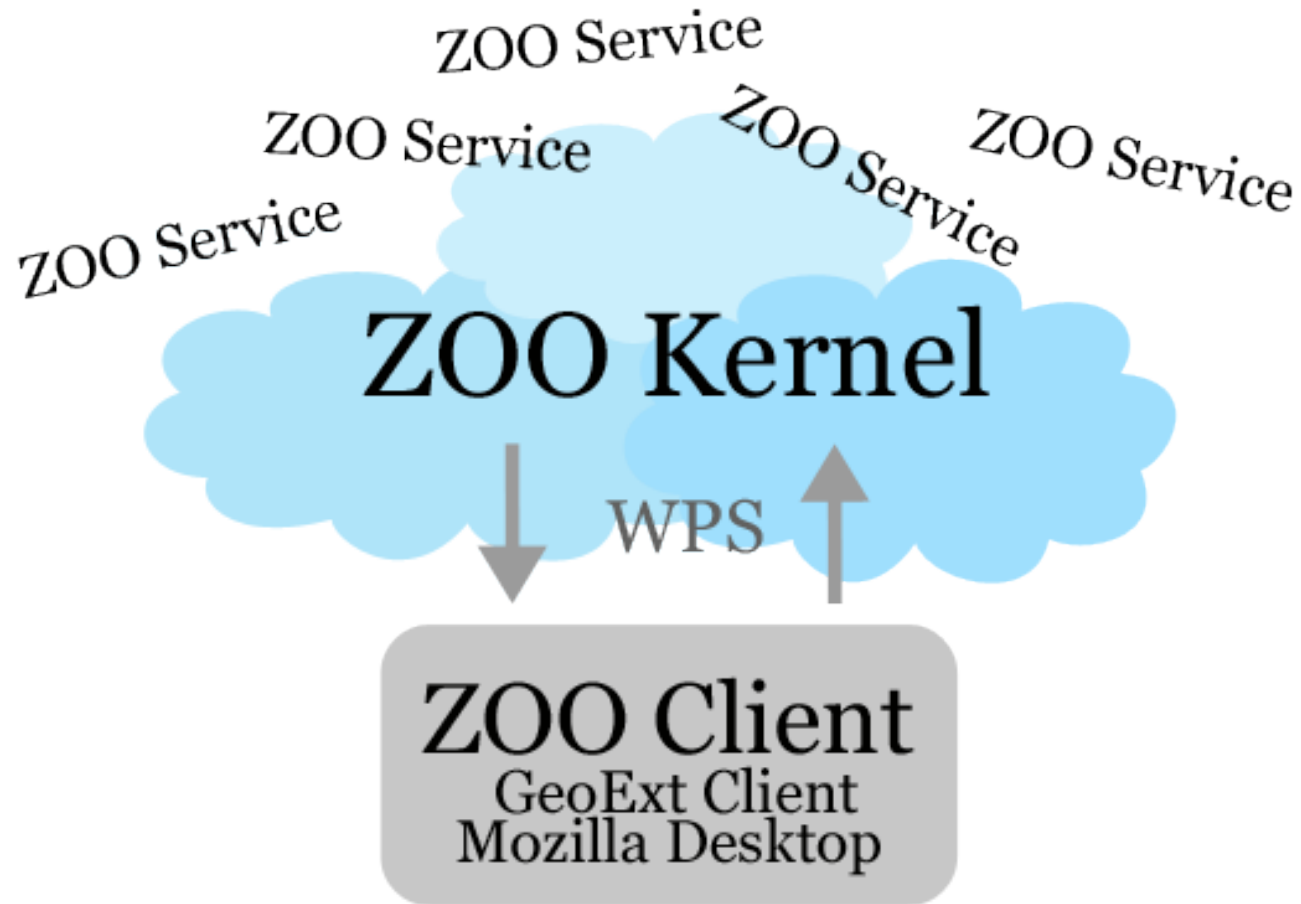> Many services available online
> Many specific Javascript API

Is that really sustainable ?

Let's build standardised OSGeo ecosystem using WPS and also
other OGC Web Services

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Platform Overview

ZOO Service

ZOO Service

ZOO Service

ZOO Service

ZOO Service

ZOO Kernel

WPS

ZOO Client
GeoExt Client
Mozilla Desktop

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Which Programming Language ?

ZOO Babel

ZOO Kernel is able to support any language
you want it to support !

This way we don't force anybody
to code in a specific language !

Currently support for Services from Service Provider in
JAVA, **Python**, **PHP** and **C**.

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OGC®

Mapserver
(WMS, WFS,WCS,SOS)

\+

Apache Server
(HTTP)

OASIS

\+

Open Office Server
(ODF)

OGC®

\+

ZOO Kernel
(WPS)

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How does it work ?

A **ZOO service** is made of:

A .zcfg metadata file (Title, Metadata, Inputs, Output...)

A Service Provider, a « Service Shared Object »
(Dynamic library, Python modules, JAVA Class, PHP script ...)

WPS GetCapabilities and **DescribeProcess** requests are resolved only by parsing the .zcfg file metadata (Flex+Bison)

The ZOO Kernel is able to dynamicaly load SSO, extract then run specific functions to respond to **WPS Execute** requests.

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♥ KISS ! (Keep it simple stupid !) ♥

ZOO Kernel make it simple for the end-developer to implement any kind of services.

- Zoo Kernel uses KVP to treat the parameters coming from a GET method request.

- For the POST method, Zoo Kernel will use the request parameter sent as an XML file containing a specific operation request document (GetCapabilities, DescribeProcess or Execute).

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Hello World

test_service.py (link)

```python
def HelloPy(conf,inputs,outputs):
    outputs["output1"]={"value": "hello from the python world !","datatype": "string"}
    return SERVICE_SUCCEEDED
```

HelloPy.zcfg

```
[HelloPy]
 Title = Get the HelloWorld string.
 serviceProvider = test_service
 serviceType = Python
 <DataOutputs>
  [output1]
  Title = HelloString
  <LiteralData>
   DataType = string
  </LiteralData>
 </DataOutputs>
```

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ZOO Sample Services

DescribeProcess and Execute for:

Multiply (samples 12 x 10)

Buffer

Distance

Boundary

ConvexHull

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ZOO Sample Service Provider OGR based

http://demo.zoo-project.org/ogr/ogr-wfs-demo2.html

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ZOO Sample Service Provider CGAL based

http://demo.zoo-project.org/ogr/cgal-demo.html

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ZOO Sample Service Provider Drift-X based

ZOO and Processes Chaining

Since WPS already support service chaining, therefor ZOO is also able to use the output of one process as an input for another process.

Moreover, as ZOO Kernel support the XML POST Request (mandatory) you could even easily store your requests for a future use, to re-execute a process on demand.

We didn't provide the storage of your XML request currently, please do it by yourself !

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ZOO Kernel next steps

Get some more services running !

- GRASS and/or SEXTANTE service

- Statistical service using R

- SOS implementation (Zoo Box demo in FOSS4G Osaka)

- OpenOffice reporting service

Developer guide to be written by March 2010

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ZOO Client plans

Mozilla Desktop GIS Client

- XULRunner hybrid GIS application

- Implementation of ZOO Kernel in the heart of the Mozilla platform
    (ZOO Kernel as an XPCOM component)

ZOO Client Javascript API

- GeoExt Web GIS client
- Automated Toolbar creation (ZooSkins)

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ZOO Asia Pacific tour

Oct 14th 2009: ZOO Tshirt printing in Hanoi

Oct 15th 2009 : ZOO presentation at Asian Institue of Technology (Bangkok)

Oct 16th 2009: ZOO presentation at OSGeo-Thai Chapter meeting held in Chulalongkorn University (Bangkok)

Oct 20th to 23rd : ZOO Poster at FOSS4G 2009 (Drift-X WPS)
            ZOO Project : an open WPS platform
            Canaweb Client, a base for ZOO Desktop Client

Nov 1st and 2nd 2009: ZOO @

Today : ZOO was introduced here

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Thank you for your time !

Thanks to Frank Warmerdam for his great GDAL /OGR
and constant support !

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