



Flexibility For Your Business

HYPERCONVERGENCE MEETS BIG DATA

Hyperconvergence Meets Big Data



Rafael Monnerat

rafael (at) nexedi (dot) com

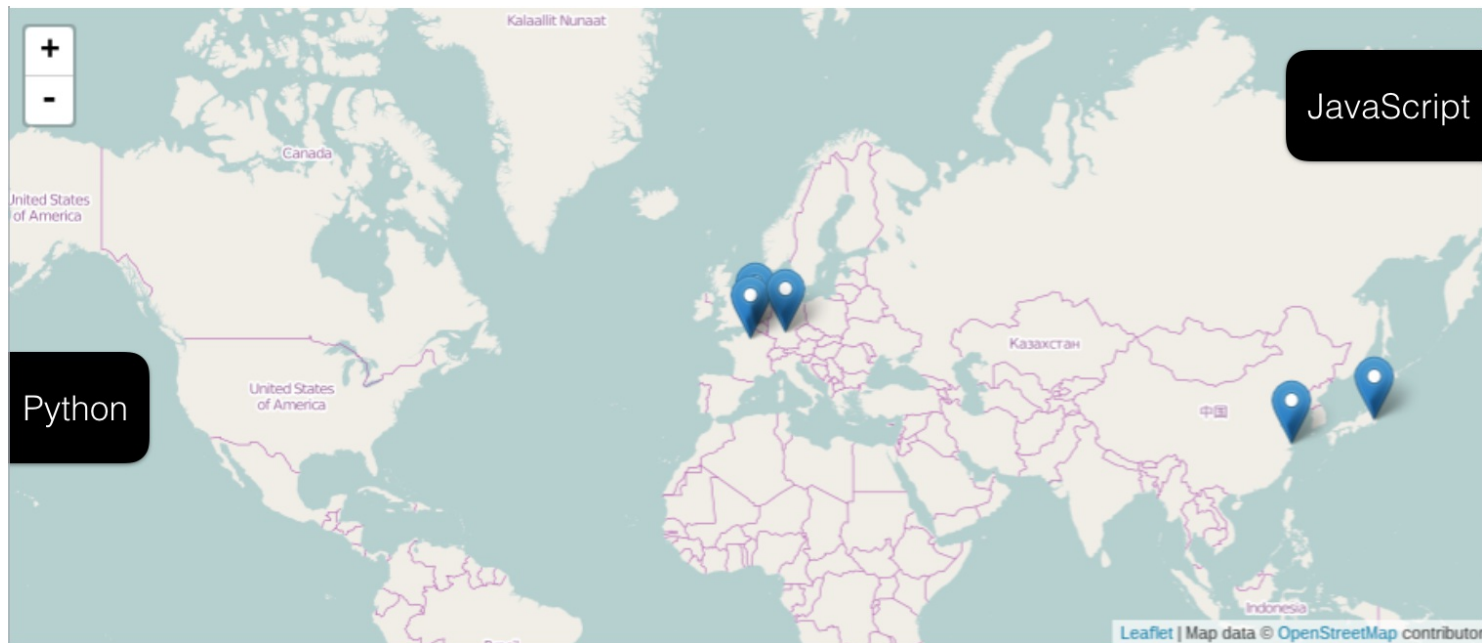
[@ramonnerat](https://twitter.com/ramonnerat)

<https://lab.nexedi.com/u/rafael>

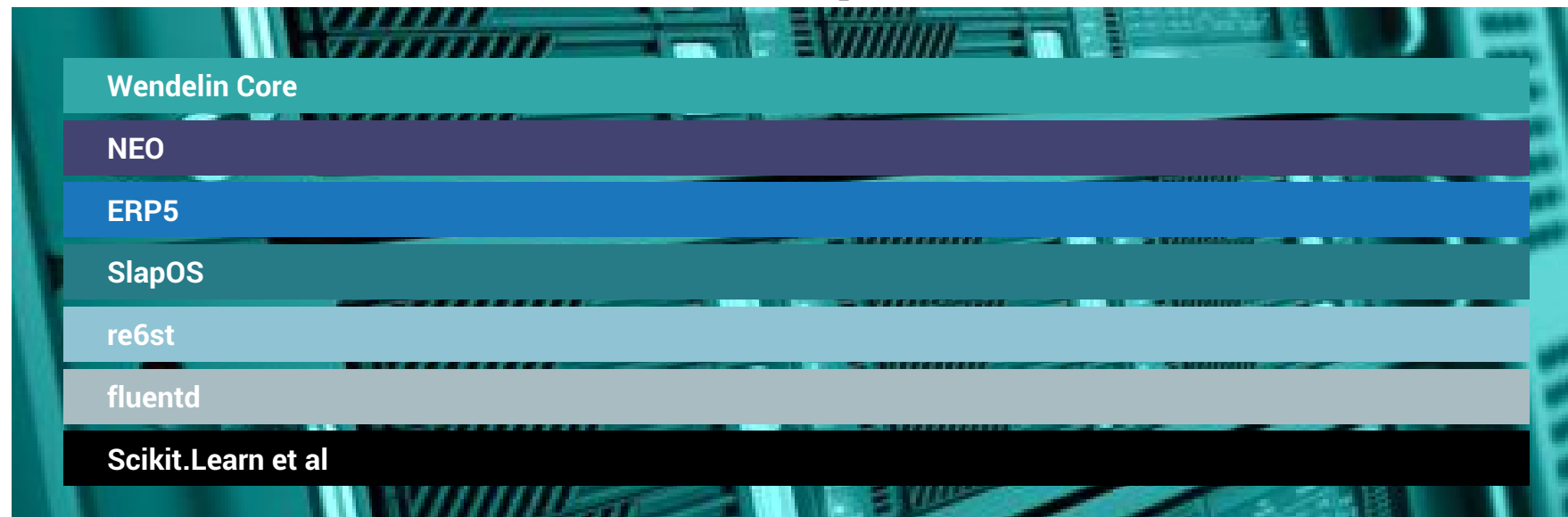
Agenda

- Hyperconvergence with SlapOS
- Big Data with Wendelin
- How to deploy?
- Upload Data
- Jupyter Quick Demos

Nexedi: Largest OSS Publisher In Europe



Stack 100% Open Source

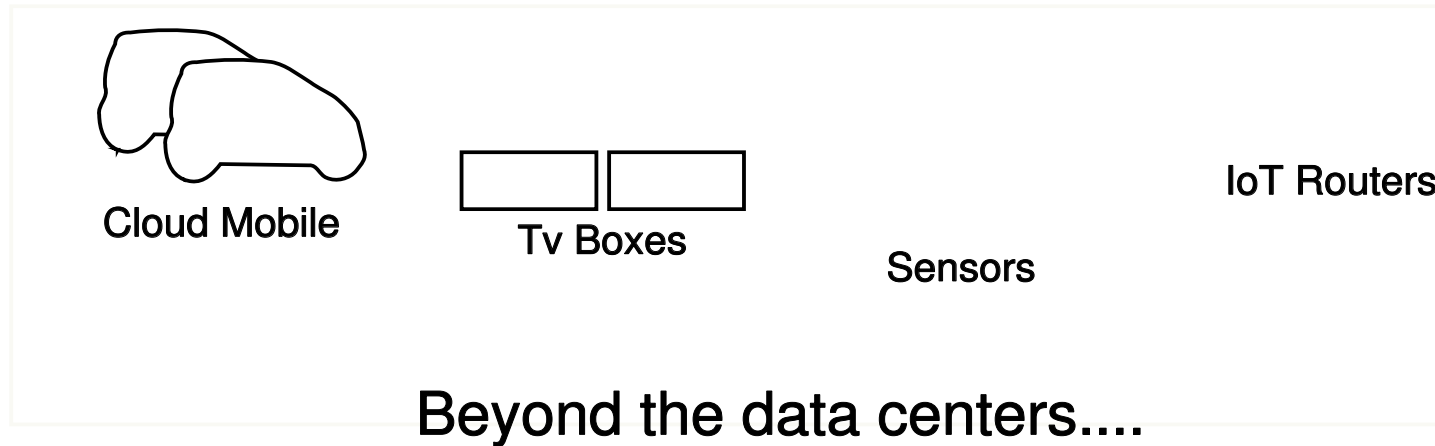


SlapOS - HyperconvergenceOS

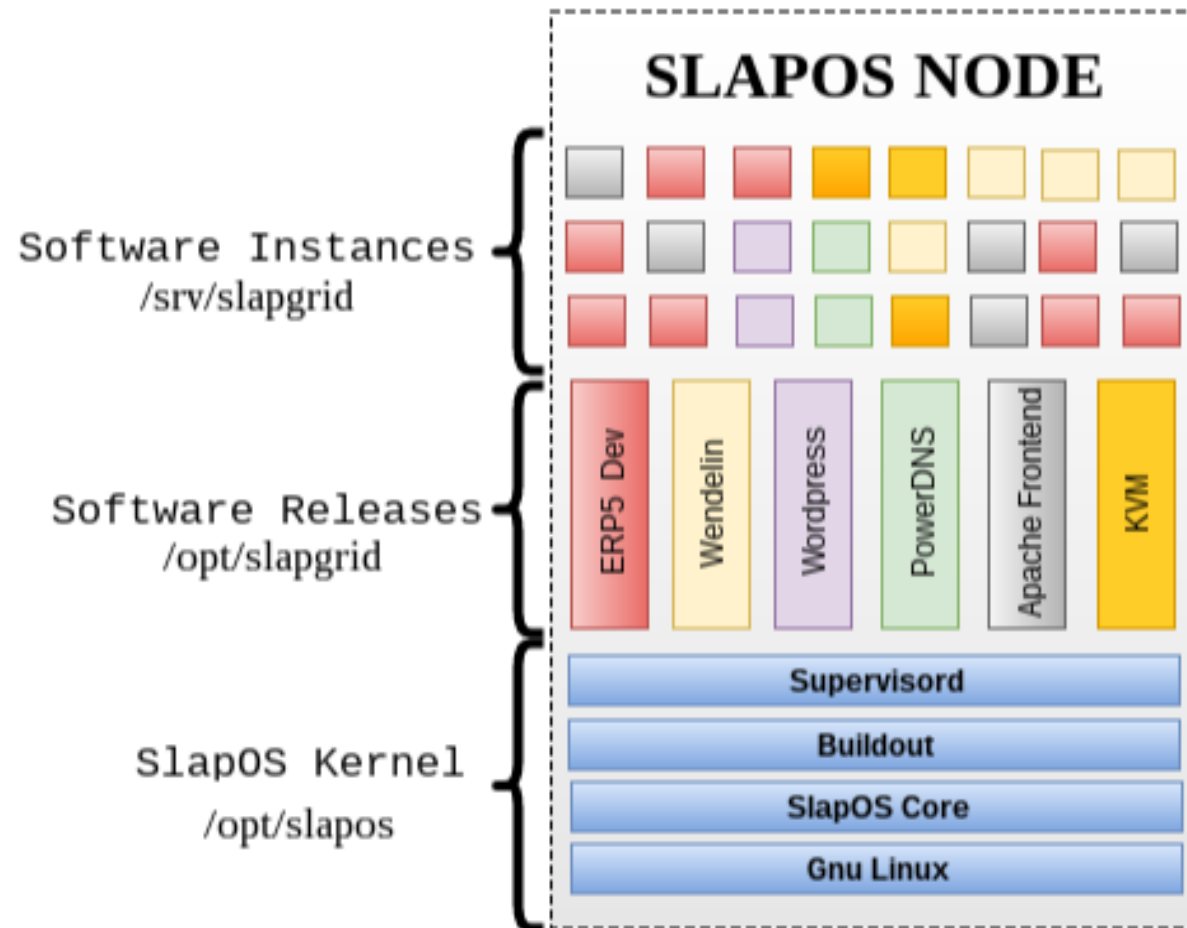
Distributed Cloud on top of Any Provider.

<http://community.slapos.org/>

SlapOS - HyperconvergenceOS



SlapOS Node



"One System To Rule Them All"

- CDN/Mesh Networking (Grandenet)
- KVM Clusters for Big Data (Teralab)
- Wendelin Environments for Big Data (Wendelin)
- Development PaaS for Developers (Nexedi)
- Distributed Test Nodes to run Unit Test (Nexedi)
- Automated Ready to Use VMs (VIFIB)
- ChromiumOS images Builder (NayuOS)

Wendelin - Out-Of-Core Pydata

Wendelin Exanalytics Core 100% open source

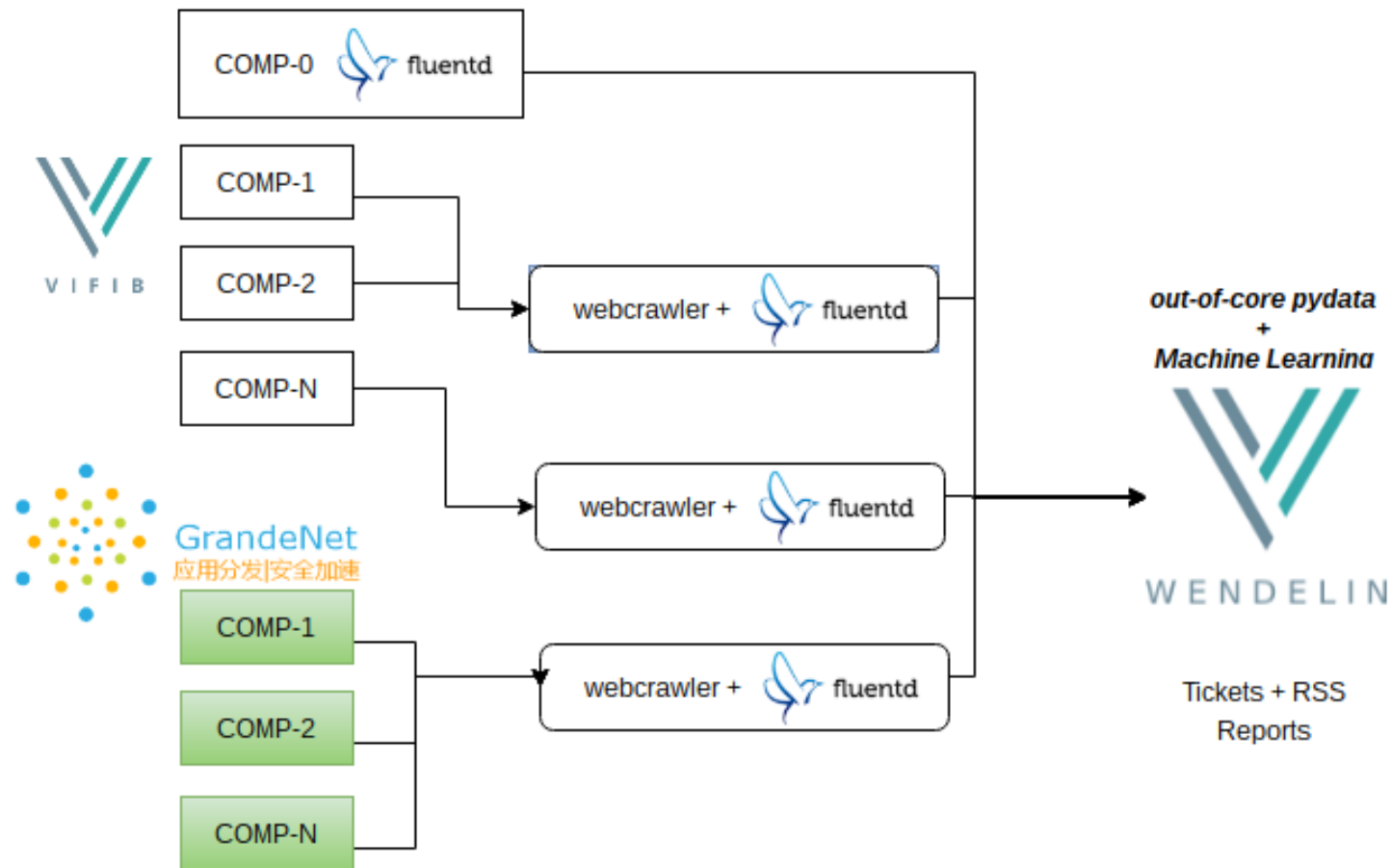


© 2014 Wendelin Project et al. – CC SA-NC



<http://www.wendelin.io/architecture>

Data Ingestion



SlapOS Deployment (With Token)

```
wget https://deploy.erp5.cn/slapos && bash slapos  
[... Install Ansible ...]  
Starting Ansible playbook:  
What is this computer name? (...): [noname]: COMPUTER-NAME  
If you have slapos token if you have (...): [notoken]: 20010101-ABDC
```

Keep it simple with single command to type...

SlapOS Deployment Standalone

```
# Leave the computer name and token empty
wget https://deploy.erp5.cn/slapos && bash slapos
[... Ansible is installed...]
Starting Ansible playbook:
What is this computer name? (...): [noname]:
If you have slapos token if you have (...): [notoken]:
```

Them..

```
# Configura Local Master
slapos configure local
```

```
# Prepare the computer to run services.
slapos node format --now
```

Easy Deployment (Client-Only)

[illegible]

Supplying And Requesting Monitor (Fluentd)

```
# Supply will provide make the computer deploy the  
# "product.monitor" software on COMPUTER with refernce COMP-1239  
slapos supply https://lab.nexedi.com/nexedi/slapos/raw/1.0.33/software/monitor/software.cfg COMP-1239
```

```
# The Request will ask to the to the COMP-1239 instantiate one instance  
# of the Software Release "product.monitor"
```

```
slapos request my_first_instance\  
https://lab.nexedi.com/nexedi/slapos/raw/1.0.33/software/monitor/software.cfg \  
--parameters item=True --node computer_guid=COMP-1239
```

```
# You can also use alias for give me the latest monitor release  
slapos supply product.monitor COMP-1239
```

```
# By not passing --node , your instance will be allocated on any computer  
# has the wanted software release (respecting security roles of your user)  
slapos request my_first_instance product.monitor --parameters item=True
```

Monitor contains fluentd

Supplying And Requesting Wendelin Stack

```
# Supply will provide make the computer deploy the  
# "product.monitor" software on COMPUTER with reference COMP-1239
```

```
slapos supply https://lab.nexedi.com/nexedi/slapos/raw/1.0.33/software/wendelin/software.cfg COMP-1239
```

```
# The Request will ask to the to the COMP-1239 instantiate one instance  
# of the Software Release "product.monitor"
```

```
slapos request my_first_instance \  
https://lab.nexedi.com/nexedi/slapos/raw/1.0.33/software/wendelin/software.cfg \  
--parameters item=True --node computer_guid=COMP-1239
```

Monitor contains fluentd

Deploying Wendelin (Standalone)

```
wget https://deploy.erp5.cn/wendelin-standalone && bash wendelin-standalone
```

Ready To Use VMs (Soon)

Not ready yet but soon images will be released for qemu, ec2, digital ocean, VMware...

Uploading Your Wavs

Create configuration file

```
@type bin
format none
path
/srv/slapgrid/slappart9/srv/runner/PUT_YOUR_WAV_HERE/*.wav
pos_file
/srv/slapgrid/slappart9/srv/runner/Demo.pos
enable_watch_timer false
read_from_head true
tag wavdemo

@type wendelin
@id wendelin_out

streamtool_uri https://softinst11111.host.vifib.net/erp5/portal_ingestion_policies/wavdemo
user zzz
password yyy

buffer_type memory
flush_interval 1s
disable_retry_limit true
```

and them run **fluentd -c configuration.cfg**

Files Uploaded!

```
2016-07-18 04:00:21 +0200 [info]: gen 'fluent-plugin-grep' version '0.3.4'
2016-07-18 04:00:21 +0200 [info]: gen 'fluent-plugin-td' version '0.10.27'
2016-07-18 04:00:21 +0200 [info]: gen 'fluent-plugin-wendelin' version '0.1.alpha1'
2016-07-18 04:00:21 +0200 [info]: gen 'fluentd' version '0.12.23'
2016-07-18 04:00:21 +0200 [info]: adding match pattern="wavdemo" type="wendelin"
2016-07-18 04:00:21 +0200 [info]: adding source type="bin"
2016-07-18 04:00:21 +0200 [info]: using configuration file: <ROOT>

<source>
  @type bin
  format none
  path /srv/slapgrid/slappart9/srv/runner/PUT_YOUR_WAV_HERE/*.wav
  pos_file /srv/slapgrid/slappart9/srv/runner/Demo.pos
  enable_watch_tiner false
  read_from_head true
  tag wavdemo
</source>
<match wavdemo>
  @type wendelin
  @id wendelin_out
  streamtool_uri https://so[REDACTED]ifib.net/erp5/portal_ingestion_policies/wavdemo
  user zope
  password insecure
  buffer_type memory
  flush_interval 1s
  disable_retry_linit true
</match>
</ROOT>
2016-07-18 04:00:21 +0200 [info]: following /srv/slapgrid/slappart9/srv/runner/PUT_YOUR_WAV_HERE/sfernigier.wav
2016-07-18 04:00:21 +0200 [info]: following /srv/slapgrid/slappart9/srv/runner/PUT_YOUR_WAV_HERE/jps.wav
2016-07-18 04:00:21 +0200 [info]: following /srv/slapgrid/slappart9/srv/runner/PUT_YOUR_WAV_HERE/KASRA.wav
2016-07-18 04:00:21 +0200 [info]: following /srv/slapgrid/slappart9/srv/runner/PUT_YOUR_WAV_HERE/bird.wav
2016-07-18 04:00:21 +0200 [info]: following /srv/slapgrid/slappart9/srv/runner/PUT_YOUR_WAV_HERE/douglas.wav
2016-07-18 04:00:21 +0200 [info]: following /srv/slapgrid/slappart9/srv/runner/PUT_YOUR_WAV_HERE/Demo00.wav
```

The files are uploaded...

Wendelin Modules Overview

- Ingestion Policies
- Data Stream
- Data Arrays

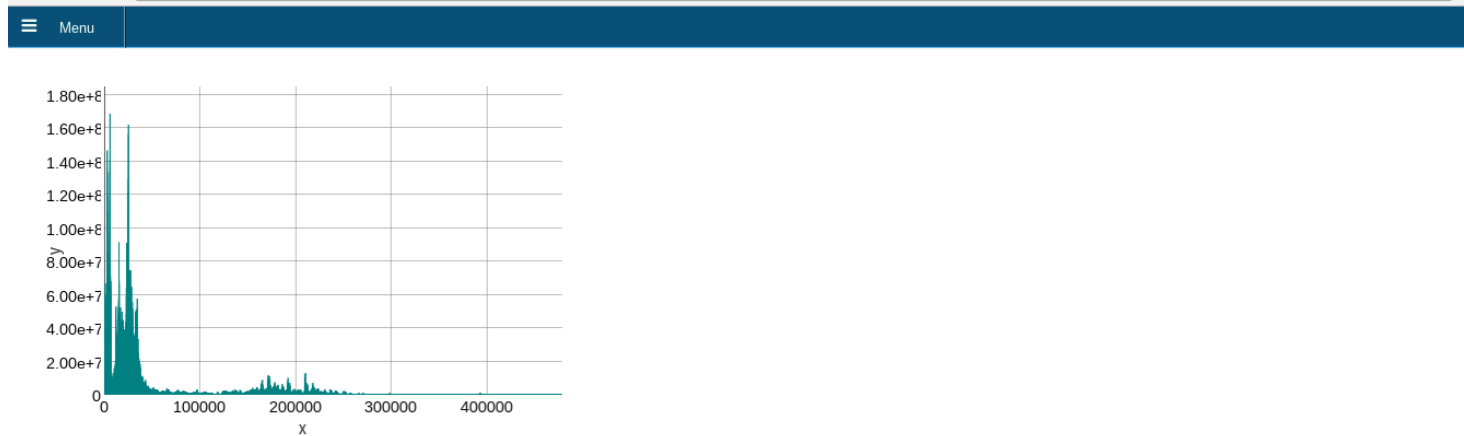
Jupyter Wav Demos

[Wav Demo Jupyter Notebook](#)

Jupyter Wendelin Async

[CMFActivities Jupyter Notebook](#)

Javascript-Based Gadgets



[NXD-Presentation.Hyperconvergence.Big.Data.Small.App](#) Full tutorial

Pip Install Wendelin.Core

```
$ ipython
Python 2.7.11+ (default, Jun  2 2016, 19:34:15)
...
# imports
In [1]:
from wendelin.bigarray.array_zodb import ZBigArray
In [2]:
from wendelin.lib.zodb import dbopen, dbclose
In [3]:
import transaction
In [4]:
import numpy as np
# open/create database for tests (on local disk for now)
In [5]:
root = dbopen('test.fs')
# create 10 items 1d array object
In [6]:
root['A'] = A = ZBigArray((10,), np.int)
In [7]:
transaction.commit()
# see what it is
In [8]:
A
Out[8]:

In [9]:
a = A[:]
In [10]:
a
Out[10]: array([0, 0, 0, 0, 0, 0, 0, 0, 0, 0])
In [11]:
type(a)
Out[11]: numpy.ndarray
```

Thank You



Rafael Monnerat

rafael (at) nexedi (dot) com

[@ramonnerat](#)

We are hiring! <https://www.nexedi.com/jobs>