

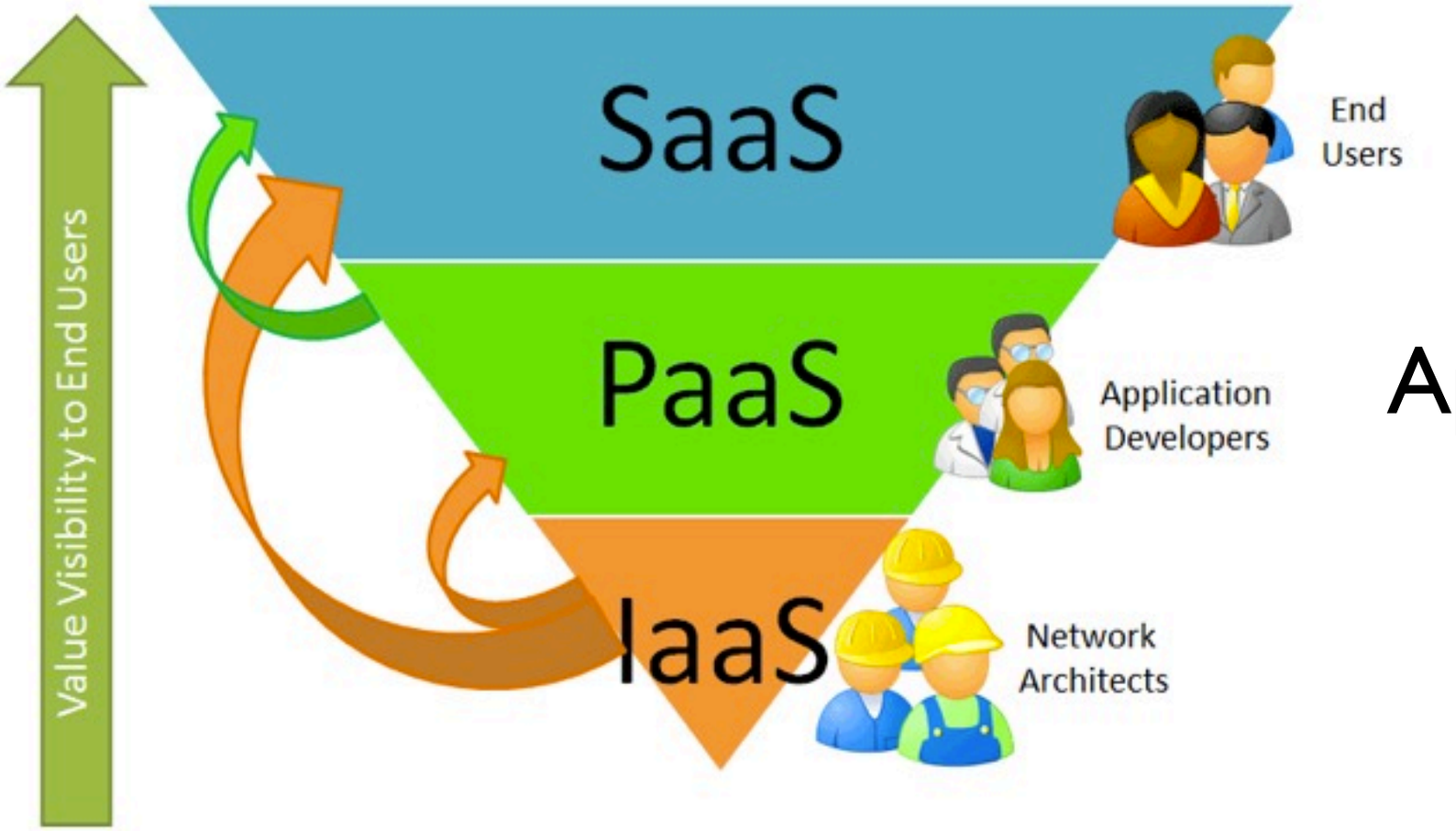
Nuxeo on the Cloud

Florent Guillaume, 2011-10-21

nuxeo
Open Source ECM

What's the Cloud?

Cloud Services



Applications

Application containers

Virtual machines and storage

Scale As You Need

- Manual or Automatic provisioning
- The Cloud knows what's available

Pay As You Go

- Instances (Memory, CPU)
- Storage
- Bandwidth
- Applications

Public / Private / Hybrid

- Public commercial cloud
- Private instances
  - Needs the full cloud machinery locally
- Hybrid model

Why Nuxeo on the Cloud?

Use Cases and Business Motivations

- Developers
- Business Users
- Ops

Nuxeo Cloud for Developers

- Quick setup of development instances
- Rapid deployment from Nuxeo Studio and Nuxeo IDE

Nuxeo Cloud for Business

- Quick setup of business applications
- Customize using profiles from the Nuxeo Marketplace in the Update Center

Nuxeo Cloud for Ops

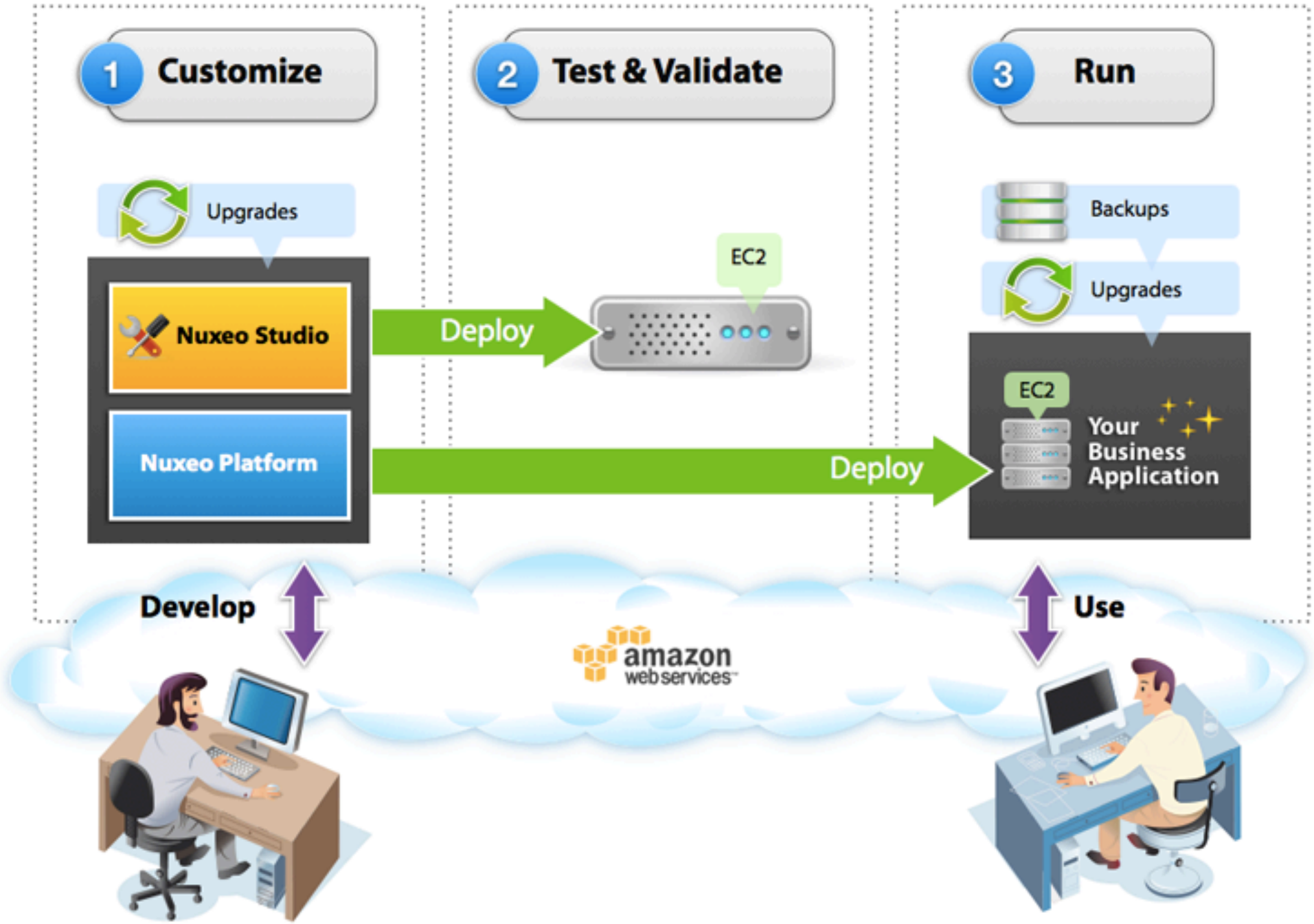
- Simplify and speed up Nuxeo deployment on public or private clouds (*e.g.* OpenStack)
- Manage your instances

Current State of Nuxeo Cloud

Nuxeo as SaaS

- Running on Amazon EC2
- Managed Nuxeo instances
- Customizable through Nuxeo Studio
- Arbitrary plugins allowed

Nuxeo as SaaS



Nuxeo on IaaS

- CloudFormation scripts (Amazon)
- Or pre-baked images (AMI)

nuxeo-tools-cloudformation / scripts / NuxeoDM_single

100644 | 71 lines (55 sloc) | 2.441 kb

```
#!/bin/bash

# Increase open files limit
echo '*       soft    nofile      4096' >> /etc/security/limits.conf
echo '*       hard    nofile      8192' >> /etc/security/limits.conf

# Add the nuxeo repository to the repository list
echo "deb http://apt.nuxeo.org/ lucid releases" > /etc/apt/sources.list.d/nuxeo.list
# Register the nuxeo key
wget -q -O- http://apt.nuxeo.org/nuxeo.key | apt-key add -
# Add the partner repository (for java)
echo "deb http://archive.canonical.com/ubuntu lucid partner" >> /etc/apt/sources.list.d/nuxeo.list

# Pre-accept Sun Java license & set DM options
echo sun-java6-jdk shared/accepted-sun-dlj-v1-1 select true | debconf-set-selections
echo sun-java6-jre shared/accepted-sun-dlj-v1-1 select true | debconf-set-selections
echo nuxeo-dm nuxeo-dm/bind-address select 127.0.0.1 | debconf-set-selections
echo nuxeo-dm nuxeo-dm/http-port select 8080 | debconf-set-selections
echo nuxeo-dm nuxeo-dm/database select Autoconfigure PostgreSQL | debconf-set-selections

# Upgrade packages and install ssh, vim and nuxeo-dm
export DEBIAN_FRONTEND=noninteractive
locale-gen en_US.UTF-8
aptitude update
aptitude -q -y safe-upgrade
aptitude -q -y install apache2
echo "Please wait a few minutes for you instance installation to complete" > /var/www/index.html
aptitude -q -y install openssh-server openssh-client vim nuxeo-dm

```

Upcoming Offers

Nuxeo on IaaS

- Short term projects
- Upcoming support for more IaaS providers (ex: Rackspace) and private IaaS (ex: OpenStack)

Nuxeo on a PaaS

- Short / medium term projects
- Options: Elastic Beanstalk, CloudBees, Cloud Foundry, OpenShift...
  - All need customization due to our own specific needs
  - CloudFoundry is currently the only open source solution
- Need an open source platform to adapt it to our own needs (Studio, Update Center...)
  - Cloud Foundry (maybe)
  - OpenShift when they decide to open it for real

Focus on CloudFoundry

- Set of command-line tools to deploy applications (Java, Ruby, Node...) to a public PaaS (owned by VMWare) or your own
- Takes care of application provisioning, starting, stopping, monitoring
- Can add / remove instances to scale up / down your applications

Nuxeo on CloudFoundry

- One needs to patch several pieces of CloudFoundry
- Sample Usage:

```
$ vmc push myapp --no-start
$ vmc start myapp
$ vmc apps
+-------------+----+---------+----------------+------------------+
| Application | #  | Health  | URLS           | Services         |
+-------------+----+---------+----------------+------------------+
| myapp       | 1  | RUNNING | myapp.vcap.me  | myappdb          |
+-------------+----+---------+----------------+------------------+
```

Current issues

- We still need to figure out how to support some important Nuxeo features on this platform:
  - Hot deploy / reload
  - Updates through Nuxeo Connect

Scale up

```
$ vmc instances myapp +1

$ vmc instances myapp

+-------+-----------+---------------------+
| Index | State     | Start Time          |
+-------+-----------+---------------------+
| 0     | RUNNING   | 09/30/2011 05:20PM  |
| 1     | RUNNING   | 09/30/2011 05:24PM  |
+-------+-----------+---------------------+
```

Nuxeo as a PaaS

- Longer term
- Multi-tenant PaaS specific to ECM applications
- ECM as a service

Nick Barcet

- Presentation of Juju

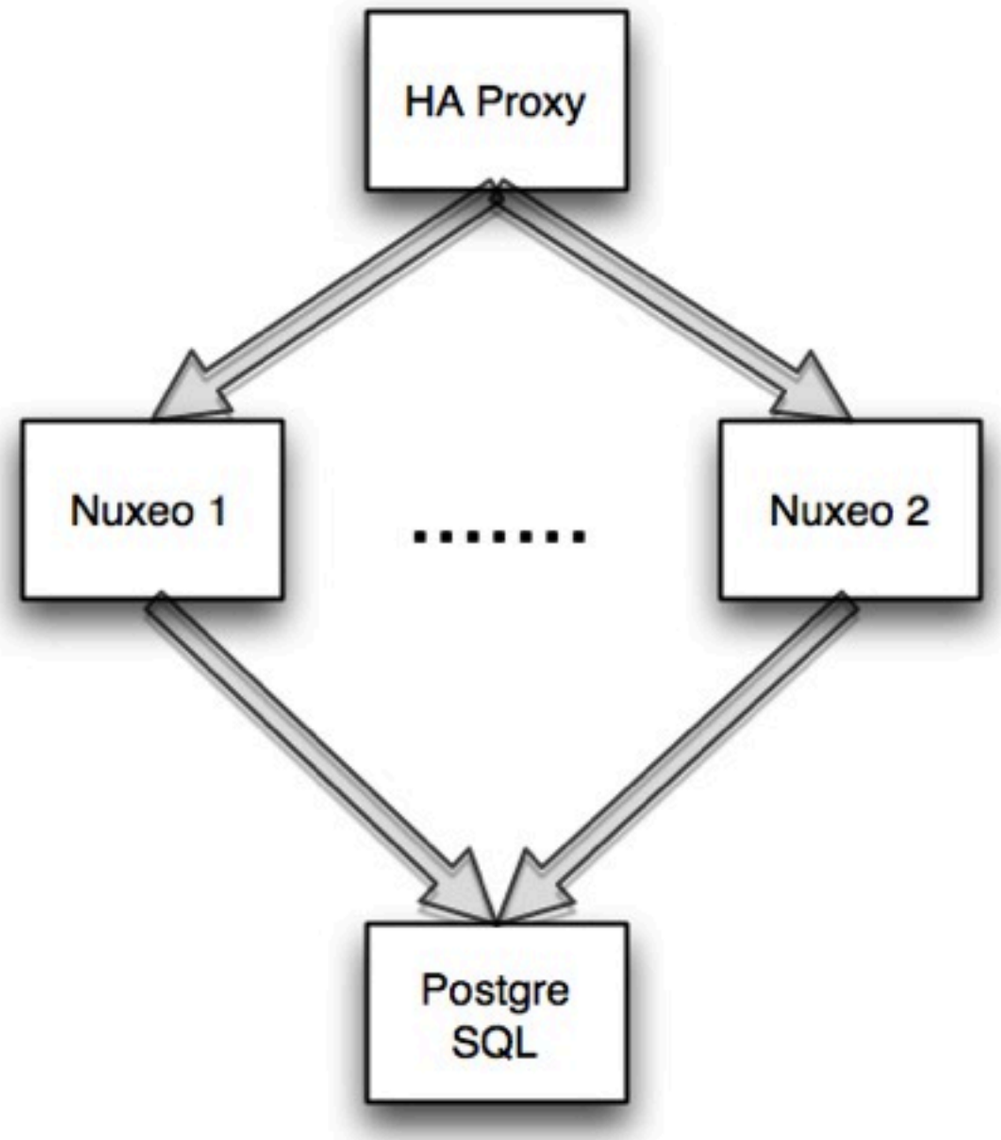
nuxeo
Open Source ECM

Nuxeo on Juju

Use case

- We already know how to deploy single server instances of Nuxeo on the cloud (ex: using CloudFormation)
- But deploying fault-tolerant and scalable multi-servers instances is still a manual process
- Enters Juju...

Target architecture



Bootstrap the environment

```
$ juju bootstrap

# Wait a couple of minutes

$ juju status

..
```

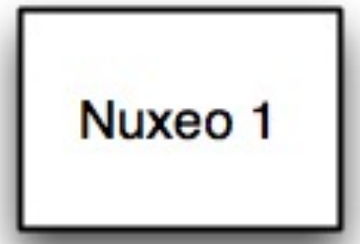
Launch the services

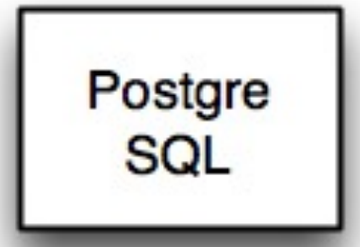
```
$ juju deploy --repository=charms \
    local:haproxy

$ juju deploy --repository=charms \
    local:nuxeo

$ juju deploy --repository=charms \
    local:postgres-nuxeo
```


HA Proxy


Nuxeo 1


Postgre
SQL

Connect the services together

```
$ juju add-relation haproxy:reverseproxy\
   nuxeo:website

$ juju add-relation postgres-nuxeo:db \
   nuxeo:db
```


HA Proxy
Nuxeo 1
Postgre
SQL

Open the business!

```
$ juju expose haproxy
```

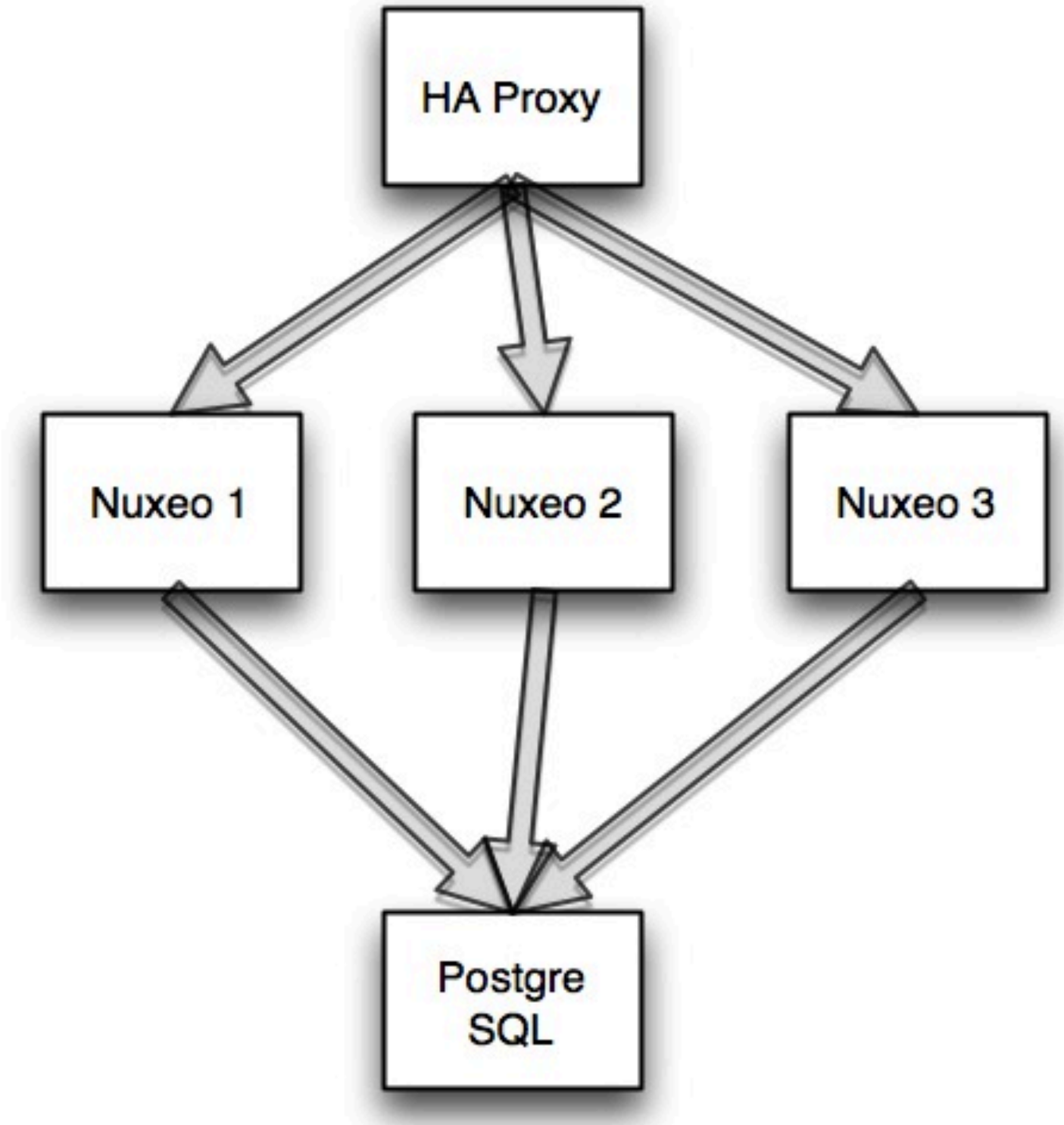
Users are coming !



Add more servers!

```
$ juju add-unit nuxeo

$ juju add-unit nuxeo
```


HA Proxy
Nuxeo 1
Nuxeo 2
Nuxeo 3
Postgre
SQL

Additional goodies

- NFS storage (or S3 / S3-like)
- Monitoring
- Auto-scalability (add more Nuxeo servers when loads increases, remove them afterwards)
- Backups
- Integration with Nuxeo Connect & Nuxeo Marketplace

Work in progress

- Juju is still Beta (will reach production-readiness in 2012)
- Watch (and contribute to) our charms on http://github.com/nuxeo/nuxeo-juju