Nuxeo on the Cloud

Florent Guillaume, 2011-10-21
What’s the Cloud?
Cloud Services

Applications

Application containers

Virtual machines and storage

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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

1. Customize
   - Nuxeo Studio
   - Nuxeo Platform
   - Upgrades

2. Test & Validate
   - EC2
   - Deploy

3. Run
   - Backups
   - Upgrades
   - Deploy
   - Your Business Application

Develop

Use

amazing web services

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Nuxeo on IaaS

- CloudFormation scripts (Amazon)
- Or pre-baked images (AMI)
#!/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-l select true | debconf-set-selections
echo sun-java6-jre shared/accepted-sun-dlj-v1-l 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
$ 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 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
Connect the services together

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

$ juju add-relation postgres-nuxeo:db \n    nuxeo:db
Open the business!

$ juju expose haproxy
Users are coming!
Add more servers!

$ juju add-unit nuxeo
$ juju add-unit nuxeo
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