

Opening Opensource the Jenkins Way

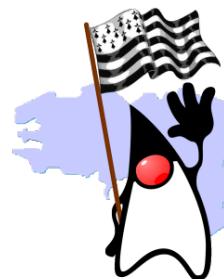
BreizhCamp 17 juin 2011



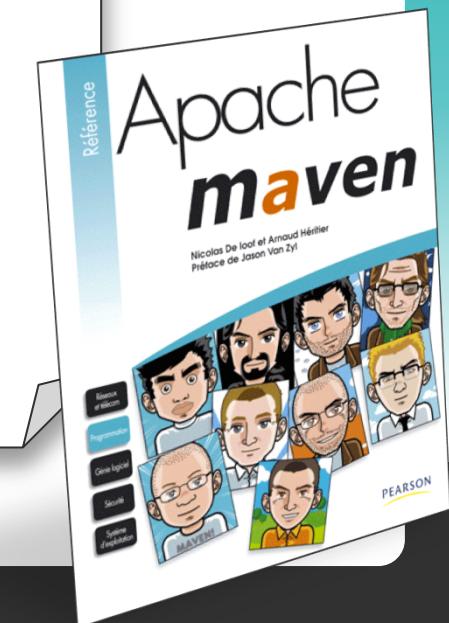


Nicolas De loof

- Java-Boy
- DevOps at **CloudBees**
- (ex-)Committer **maven**
- JUG-Leader



BreizhJug



Jenkins ?



Jenkins



Jenkins

- de facto continuous integration Server in Java ecosystem (non exclusive)
- Basis for Software Factory automation
 - Q&A Code inspection
 - Release management
 - Continuous deployment
 - Business Intelligence ...

Hudson / Jenkins : the fork

-  Jenkins Here we are
-  Jenkins defines it's own process
-   Hudson moved to GitHub and proposed to Eclipse Foundation
-  Sonatype join Oracle Hudson
-  Vote to rename the project and move to GitHub
-  Oracle uses trademark as a weapon
-  Issues with java.net infrastructure
-  Oracle register « Hudson » trademark
-  Oracle aquire SUN
-  Hudson is adopted world wide
-  KK create Hudson as a Hobby

User choosed Jenkins

- 13 000 downloads / week
- 1 500 member on jenkins-users
- 4 000 followers @jenkinsci



Jenkins

... as Developers did

- 900 members on jenkins-dev
- 48 active contributors, 94 publicized
- 170 Pull-requests from occasional contributors
- 11,3 changes per release
(6,7 before the fork)

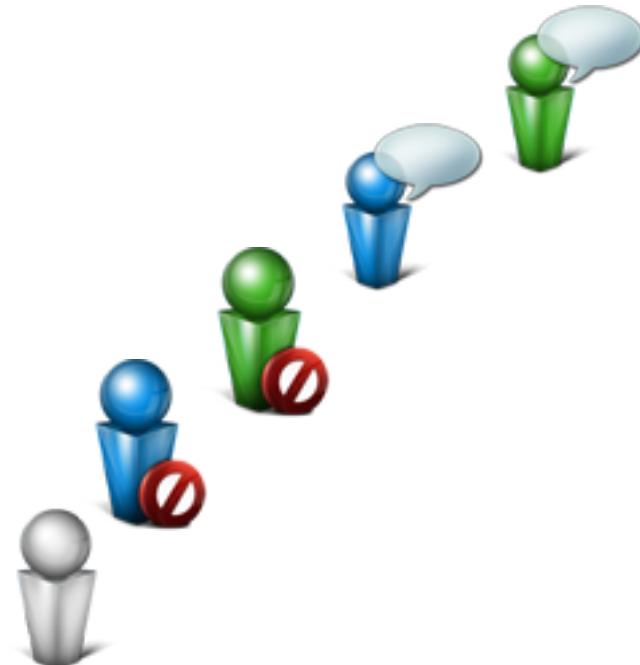
OpenSource model

How to attract new contributors ?



Standard OSS model « meritocratic »

- Voice committer
- Committer
- Contributor
- Supporting User
- User



How to become a Committer ...

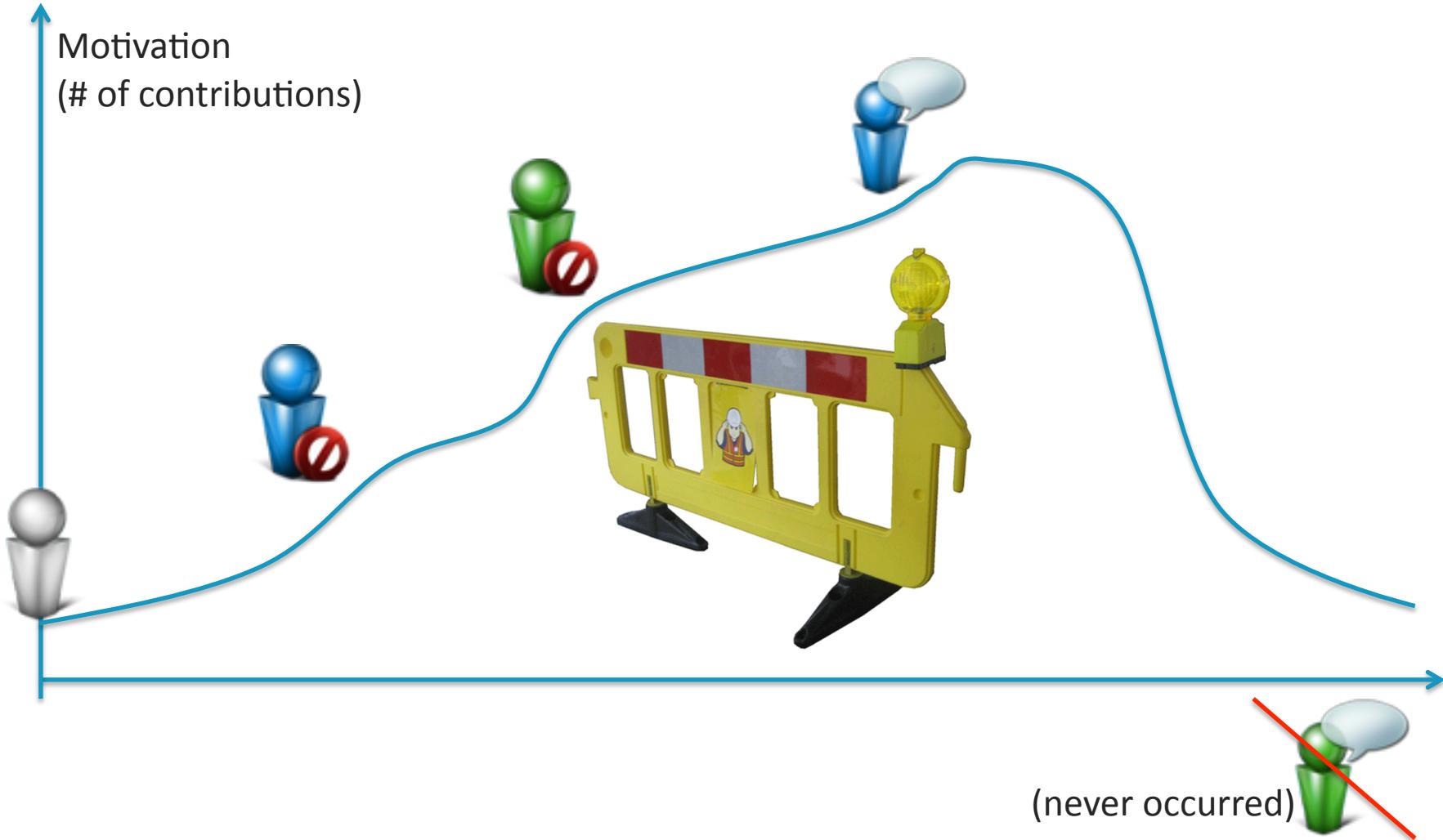
1. Use the tool
2. Contribute to user-forum
3. Get familiar with the code
4. Contribute to dev-forum
5. Fix bugs and post patches
6. Be nice with everybody
7. Do some lobbying

In practice...

- Difficult to get into the code
- Difficult to get spare time
- Difficult to fix bug or add new features
- Laborious to create and maintain patches
- Frustrating to wait for approval

How many talented guys do we loose here ?

My personal experience

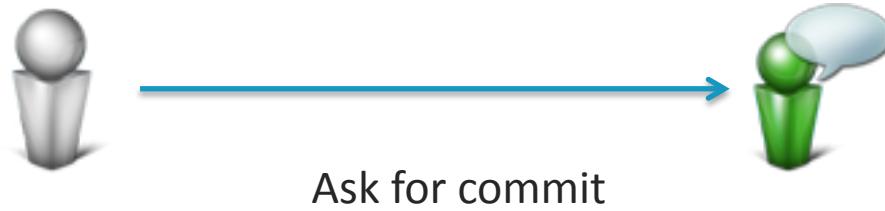


The Jenkins-way

- Rule #1 : lower the contribution barrier



Want to contribute ?



Self-censored contributors

« *With great power, comes great responsibility* »



Hey, this is SCM role after all !

- Discover a regression :
→ revert
- Test harness to the rescue
(still much to do there)

Possible if there is few changes between releases !

The Jenkins-way

- Rule #2 : Release often (even more)



Jenkins releases

- One release per week
- Few changes between releases
- Easy to rollback when something is broken
- + « stable but older » branch (3 month) with Critical bug fixes only

OpenSource model

How to merge contributions ?



WTF ?

- Contributor may ask for code review
- Contribution may require few changes before being applied
- We don't want to discourage contributors

Diff format (SVN patch)

- Diff format is definitely not a sexy format for humans

```
> +@Deprecated  
> +public class Base64  
> +{  
> +    public Base64()  
> +    {  
> +        super();
```

Does it really need to call Object.super(). Can we not leave it with the default constructor as Plexus' original has?

```
> +    }
```

GitHub pull request

A screenshot of a GitHub pull request page. The title of the pull request is "[FIXED JENKINS-9915] Make captcha support optional; remove LGPL jcaptcha". The description states: "This change is largely based on changes made by Winston Prakash for Hudson. The main details about his changes can be found here: <http://issues.hudson-ci.org/browse/HUDSON-8844>". The body of the pull request includes a note: "I deviated a bit from his changes where it was appropriate (e.g. the description for allow-signup.html was just plain wrong). Also, there was a lot of collateral damage from formatting in his changeset, which I have factored out." Below the pull request body, it says: "I tested the basic functionality of this change and it seems to be OK."

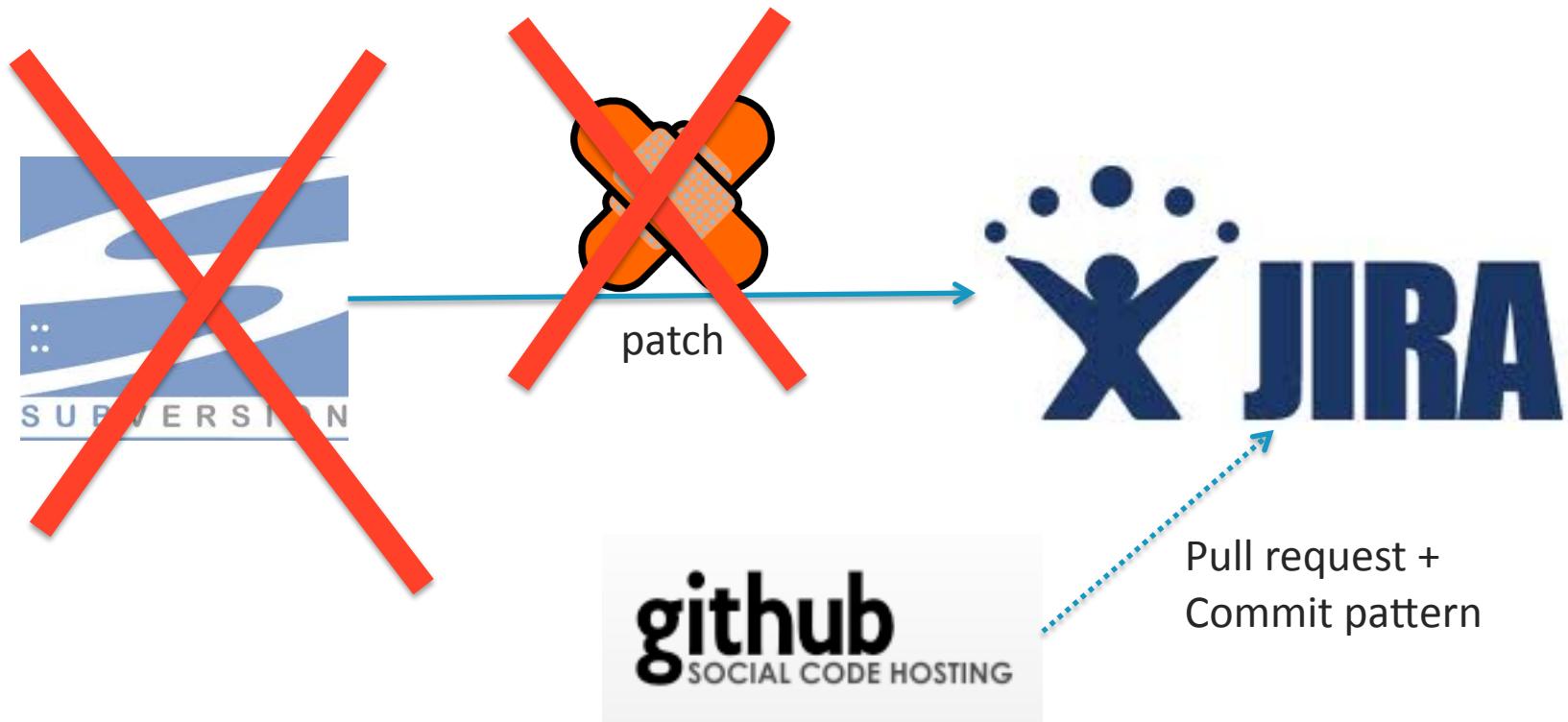
Participants in the pull request include: jieryn, olamy, orrc, and kutzi.

Comments on the pull request:

- jieryn added some commits 4 days ago (commit 7689840)
- kutzi commented on 7689840 4 days ago: "There's still a wrong "@since 2.0.1" in CaptchaSupportDescriptor"
- jieryn added some commits 3 days ago

The Jenkins-way

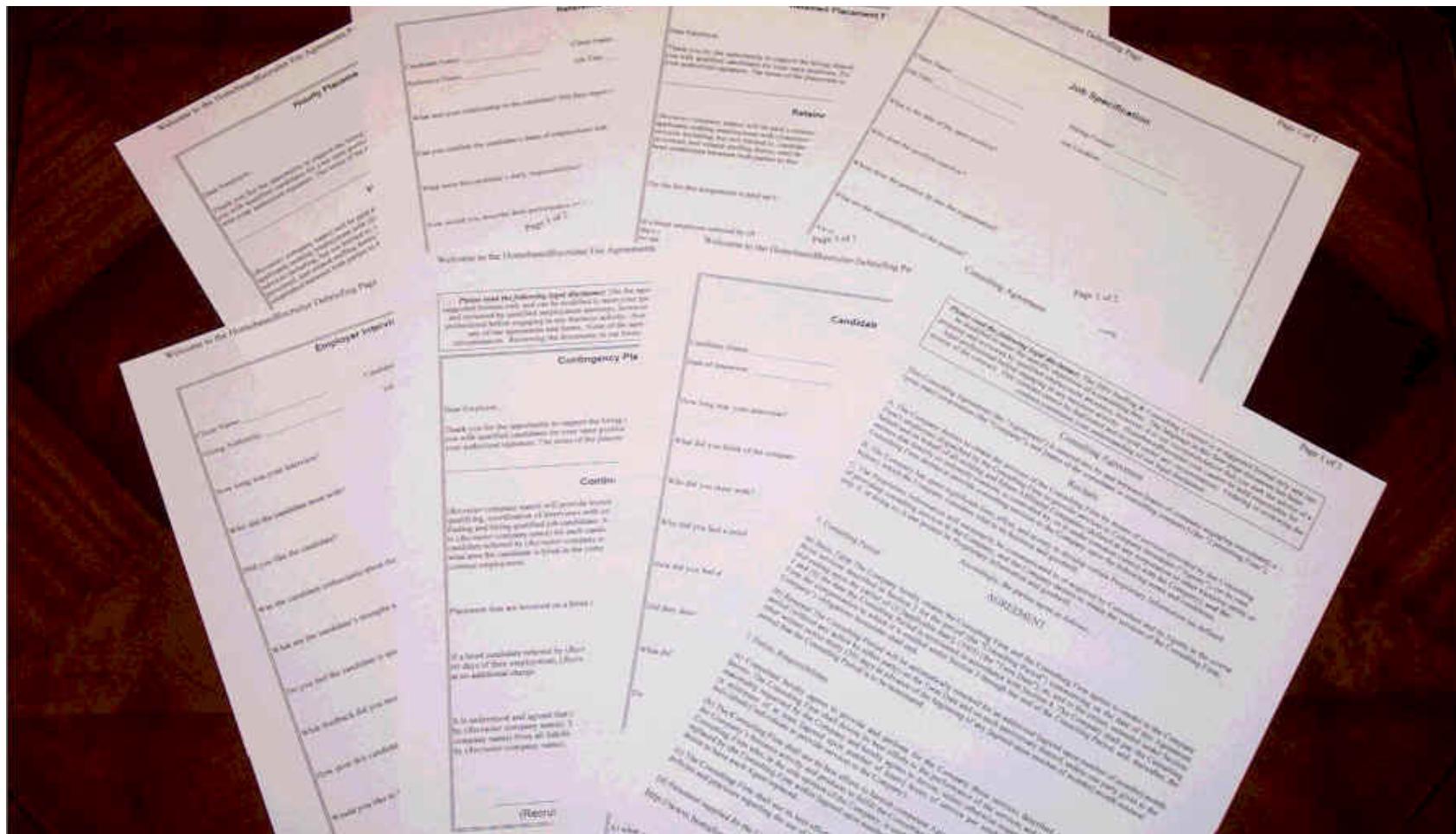
- Rule #3 : Tools matter, use the right ones



Jenkins at GitHub

- Origin of the Hudson/Jenkins fork (java.net outage)
- 200 forks on Jenkins GitHub repo !
- 170 pull requests

What about CLA ?



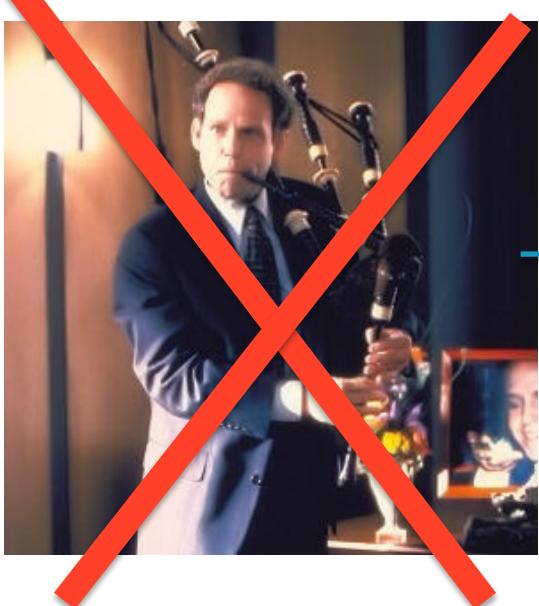
What is a CLA for ?

- Constrain contributors to transfer Intellectual Property
- ... but not to ensure they have
- License is not a guarantee of freedom
- This is a lawyers artifact



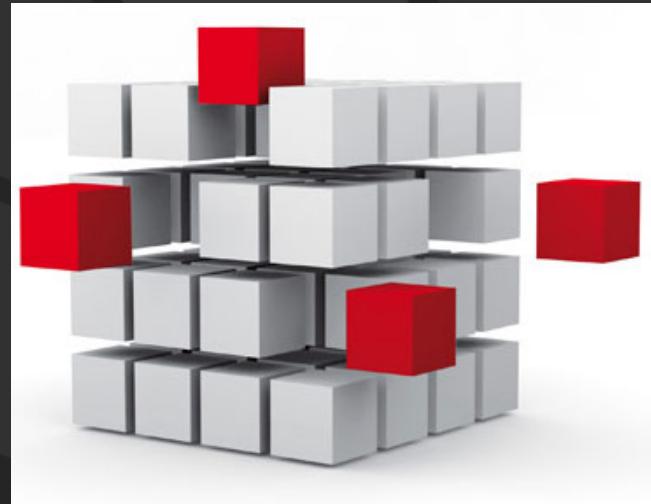
The Jenkins-way

- Rule #4 : We are developers, not lawyers



Opensource model

Embrace new features



Modular design

- 250 plugins !
(maven plugin is the only one in core)
- Even growing ecosystem
- Contributor can focus on some plugin
that bring them value daily

Extensibility

- Extension point with runtime discovery
- Need to plug somewhere in Jenkins ?
→ add a new extension point
- Some idea for a new plugin ?
→ add for a repo on [github/jenkins-ci](#)

The Jenkins way

- Rule #5 : design for extensibility



→ Multiple technical solutions (incl. @Inject)

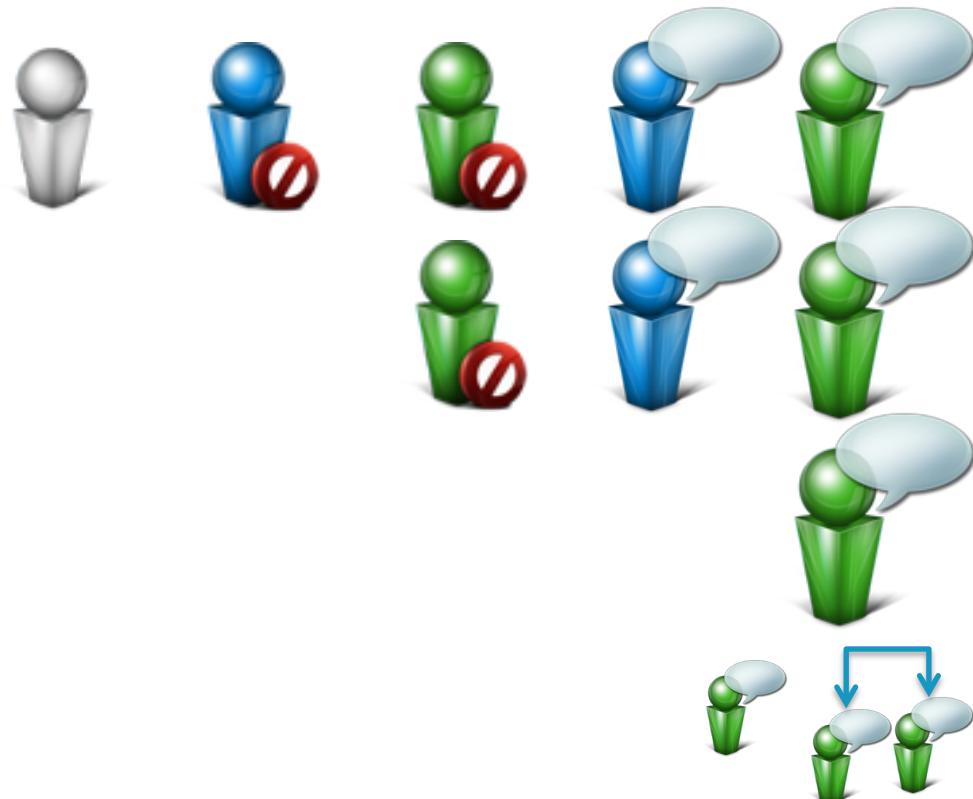
OpenSource model

How to talk together ?



Multiple discussion levels

- User forum
- Dev forum
- Private forum
- (+ lobbying)



WTF ?

- Need for private discussion when it could hurt someone
- invitation for new Committers

... but we don't have to « filter » committers anymore

transparency

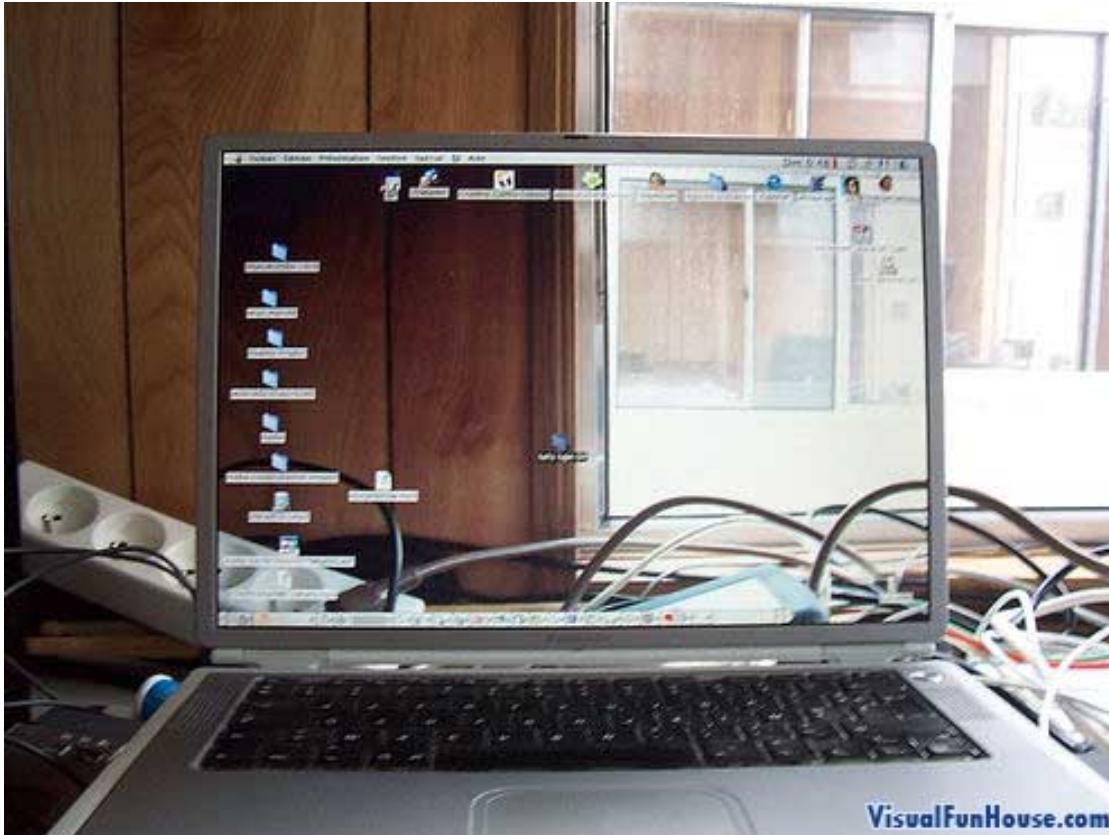
- All discussions are public
 - On jenkins-dev
 - On irc #jenkinsci
- Meeting bi-weekly on irc
 - Logged by irc-bot for later availability
<http://meetings.jenkins-ci.org/jenkins>

Multiple level of participation

- 24/7 on #jenkins
- Active reader on mailing lists
- Join the bi-weekly #irc meeting
- Read the meeting minutes

The Jenkins way

Rule #6 : Make things transparent



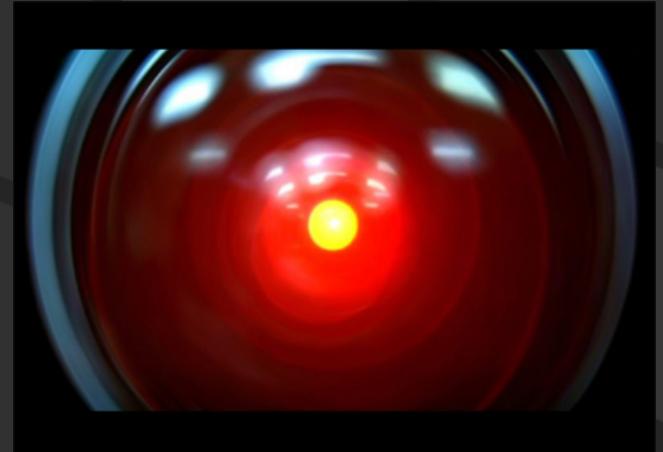
VisualFunHouse.com

e-Mail avalanche syndrom

- Multiple levels of commitment
 - ✓ 24/7 eMail addict
 - ✓ filter mails by subject
 - ✓ discuss major themes on bi-weekly meeting
 - ✓ read meeting notes

OpenSource model

Who's the boss ?



Lead

- Many contributor involved
- Everyone can commit (with care)
- No need for long debates thanks to small release cycles and transparency
- But...
project still needs some sort
of lead



A Lead

- ... but not a despot !



« Benevolent Dictator For Life »-syndrom

Lead must be ...

- Highly active contributor
- Good knowledge of project history
- Good technical skills
- Visionary
- Newbie-compliant
- Not egocentric



Lead-committee is safer

TRIUMVIRAT
❖❖❖

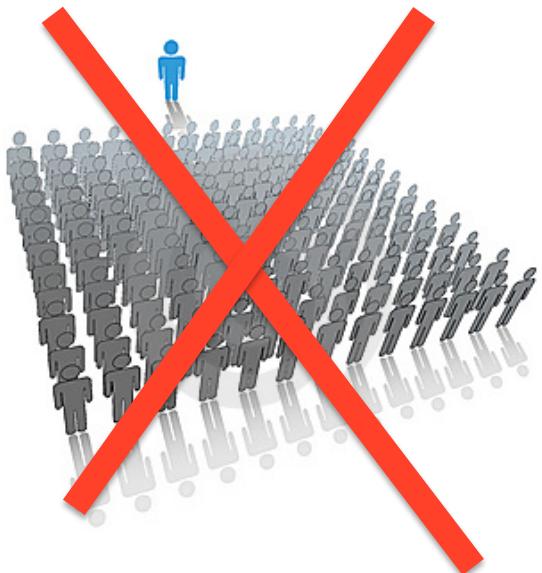
- Kohsuke Kawaguchi
- Andrew Bayer
- Dean Yu

(all from distinct companies)

And discuss in public !

The Jenkins way

- Rule #7 : choose a good Lead model



→ focus first on building a **community**

Opensource (x)or Business

« all from distinct companies » ?





Jenkins

CloudBees relation with
Jenkins ?



CloudBees in 5 words

- **Nectar** : enhanced & supported Jenkins
 - **DEV@Cloud** : hosted software factory
 - **RUN@Cloud** : Java PaaS
-
- **Public** : hosted by Amazon
 - **Private** : on your own virtualized infra

CloudBees vs OpenSource

- KK is a CloudBees employee



... but CloudBees engaged to never interfere with Jenkins Lead committee

- DEV@Cloud is awesome thanks to active opensource ecosystem !

CloudBees vs OpenSource

- CloudBees contributes bugfixes to OSS

A screenshot of a GitHub pull request page. The pull request is titled "RemoteClassLoader is not honoring the classloader that's passed to the Channel contructor". It was opened by stephenc on June 03, 2011. The status is "Closed" with 7 additions and 1 deletion. The description states: "This is one we found a CloudBees that KK has found a fix for".
Participants: stephenc and kohsuke.
Commits:

- kohsuke added some commits (2ca3836) - RemoteClassLoader is not honoring the classloader that's passed to the C...
- stephenc referenced this pull request from a commit (a5f8484) - Merge pull request #148 from stephenc/master

Merged: stephenc merged commit a5f8484 into jenkinsci:master from stephenc:master June 03, 2011.

Nectar value for enterprises

- Q&A, stabilised + supported
- Some enterprise dedicated plugins
 - Security (RBAC)
 - Virtualisation, auto-scaling, hypervisor integration
 - Jobs classification (folders)
 - Advanced Backup
 - ...

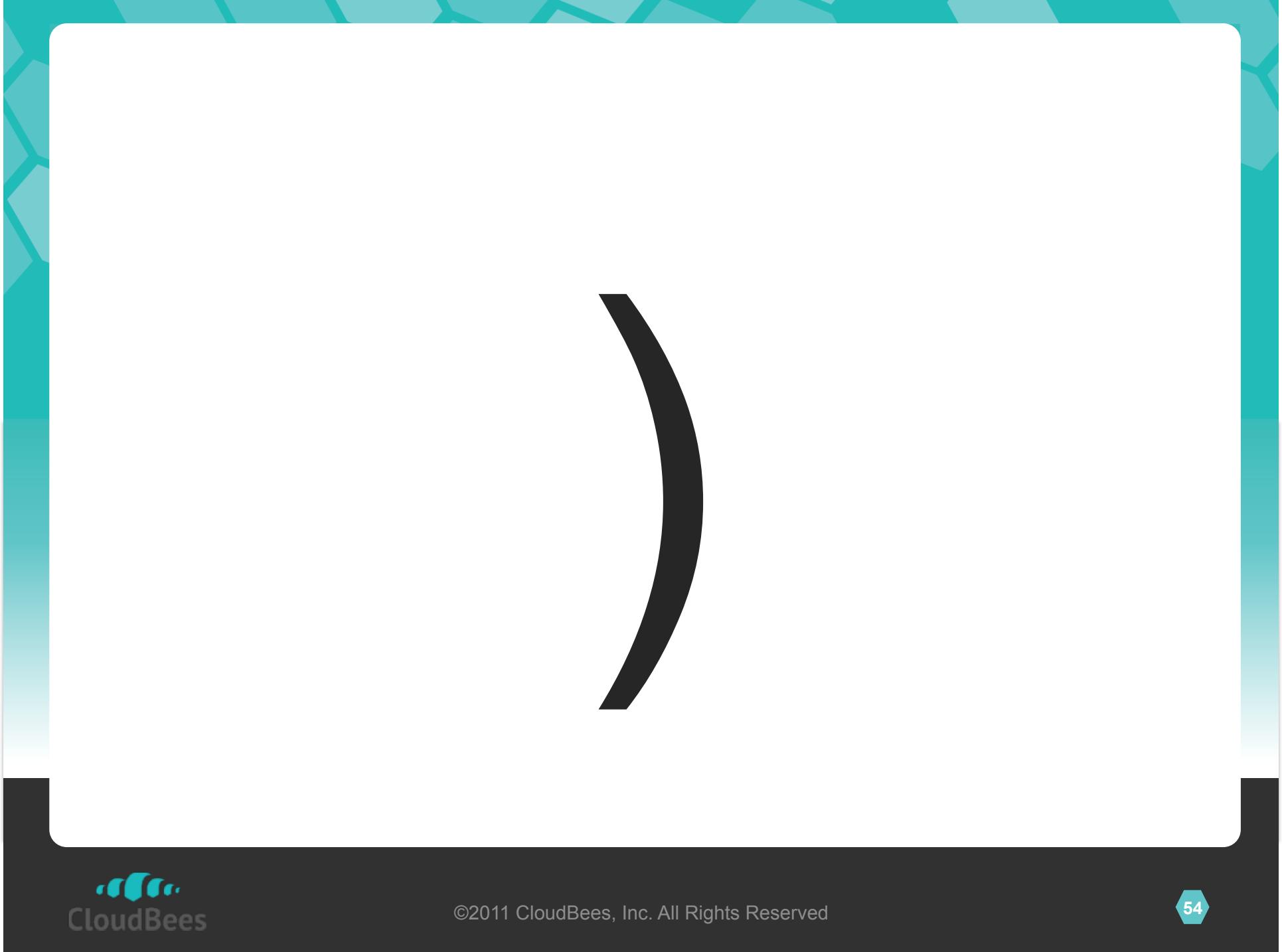
DEV@Cloud Private Edition

- Jenkins cluster
- Multi-tenant masters
- Pool of slaves
- Automatic provisionning
 - On physical or virtual machines
- Centralised management
(plugins, upgrades, default config...)

All those features are Plugins !

- Thanks to flexible Jenkins model
- Easiest maintenance
- Easiest contributions to oss
- All Jenkins improvements are good for CloudBees
- All time focused on Jenkins dev&support is good for Jenkins







Does Jenkins model apply
elsewhere ?

Does Jenkins model apply elsewhere ?

- I'm trying to for GWT-maven-plugin



Applying rules

- lower the contribution barrier
just ask to join the team !
- release often
one release per month
- tools matter
moved from codehaus svn to GitHub
- make it transparent
everything happens on googlegroups
- choose a good lead-model
myself + Olivier Lamy, may change ...
- design for extensibility
more investigation required here

Does it work ?

- Future will say...
- Already some contributors to join :
 - complaining about missing features,
 - encouraged to contribute,
 - added to team,
 - they fixed issues by themself !
- Salvador Diaz to analyse Pull Request
- Pierre-Yves Ricau committed 5 fixes
- .. an M2Eclipse configurator

Thank you

Q&A

