



Opening Opensource the Jenkins Way

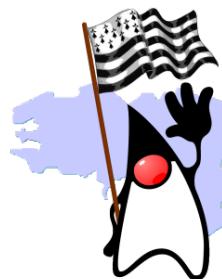
BreizhCamp 17 juin 2011



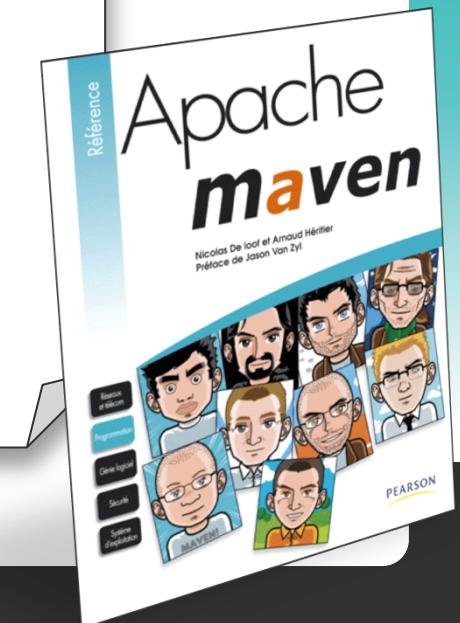


Nicolas De loof

- Java-Boy
- New-Bee 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
- Vote to rename the project and move to GitHub
- **hudson** Hudson proposed to Eclipse foundation
- Sonatype join Oracle Hudson
- **master** Oracle uses trademark as weapon
- issues with java.net infrastructure
- Oracle deposit 'Hudson' trademark
- Oracle buys 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)

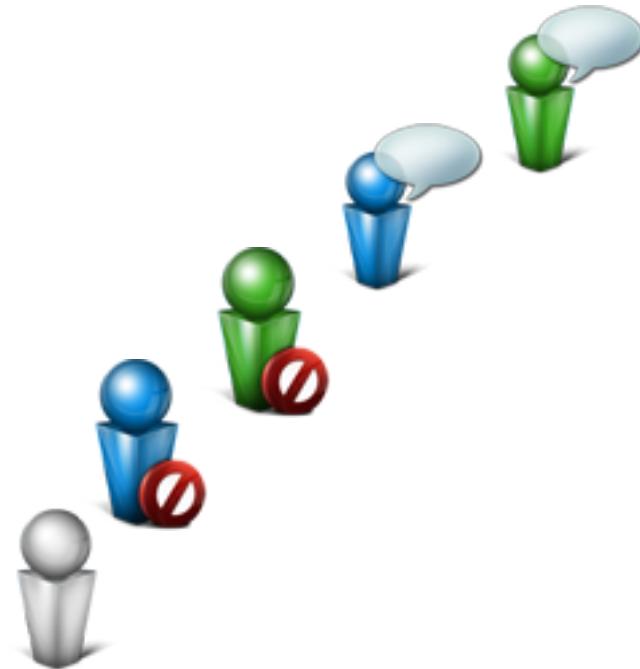
OpenSource model

How to attract new contributors ?



Standard OSS model « meritocratic »

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



How to become a Committer ...

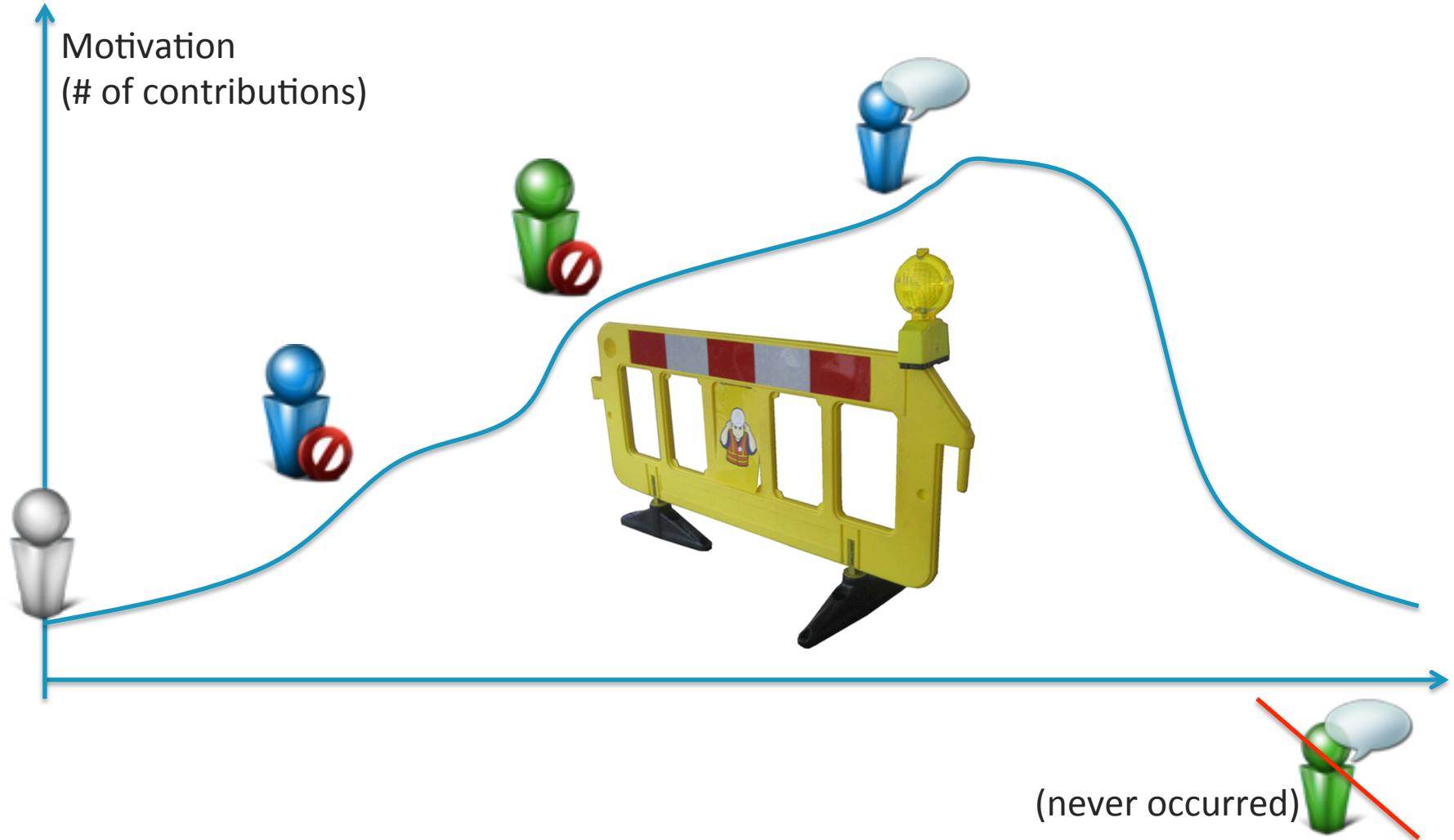
1. Use the tool
2. Contribute to user-forum
3. Get familiar with the code
4. Contribute to dev-forum
5. Fix bugs and post patches
6. Be nice with everybody
7. Do some lobbying

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

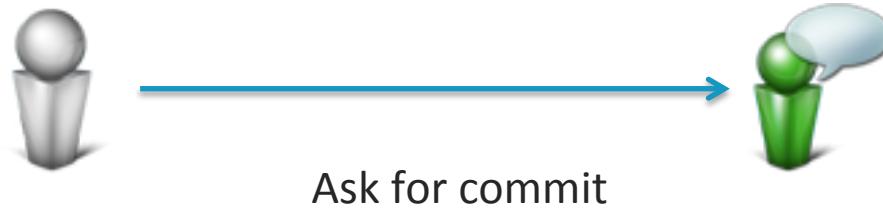


The Jenkins-way

- 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 was 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 for the Jenkins project. The page shows a pull request from user **jieryn** to merge 4 commits into the **jenkinsci:master** branch from the **jieryn:JENKINS-9915** branch. The pull request is labeled **#155**. The commit message is **[FIXED JENKINS-9915] Make captcha support optional; remove LGPL jcaptcha**. The commit details mention that the change is largely based on changes made by Winston Prakash for Hudson and provides a link to Hudson's issue tracker (<http://issues.hudson-ci.org/browse/HUDSON-8844>). The commit notes that the author deviated from the original changes where it was appropriate and factored out collateral damage from formatting. The commit concludes with "I tested the basic functionality of this change and it seems to be OK." Below the commit, it is noted that **jieryn, olamy, orrc, and kutzi** are participating in the pull request. The pull request has 192 additions and 75 deletions. The GitHub interface includes tabs for Source, Commits, Network, Pull Requests (6), Fork Queue, and Graphs, with the Branch set to master.

forked from [kohsuke/hudson](#)

Source Commits Network **Pull Requests (6)** Fork Queue Graphs Branch: master

Open [jieryn](#) wants someone to merge 4 commits into [jenkinsci:master](#) from [jieryn:JENKINS-9915](#) #155

Discussion [Commits](#) 4 [Diff](#) 10

jieryn opened this pull request 4 days ago

[FIXED JENKINS-9915] Make captcha support optional; remove LGPL jcaptcha

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>

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.

I tested the basic functionality of this change and it seems to be OK.

jieryn, olamy, orrc, and kutzi are participating in this pull request.

jieryn added some commits 4 days ago

7689840 [FIXED JENKINS-9915] Make captcha support optional; remove LGPL jcaptcha

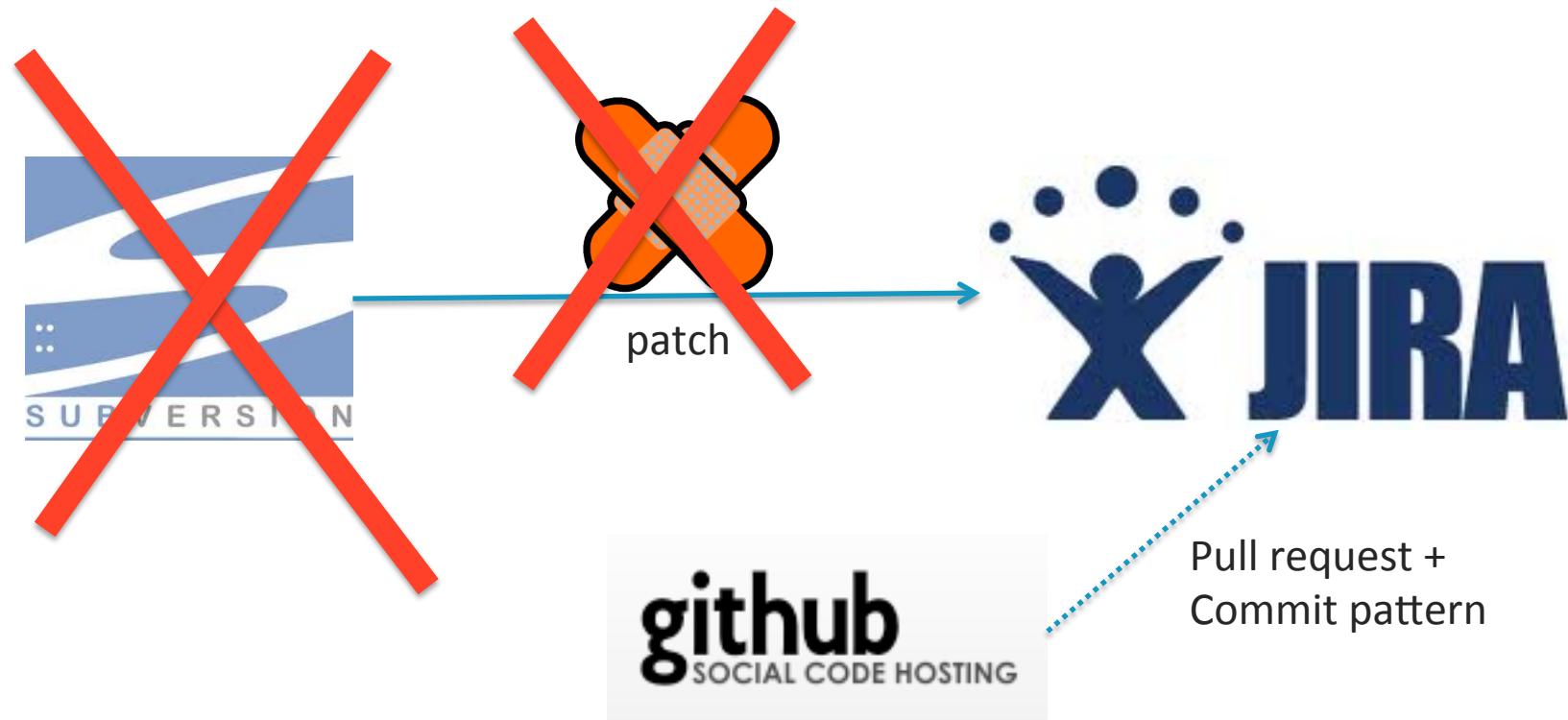
kutzi commented on 7689840 4 days ago

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

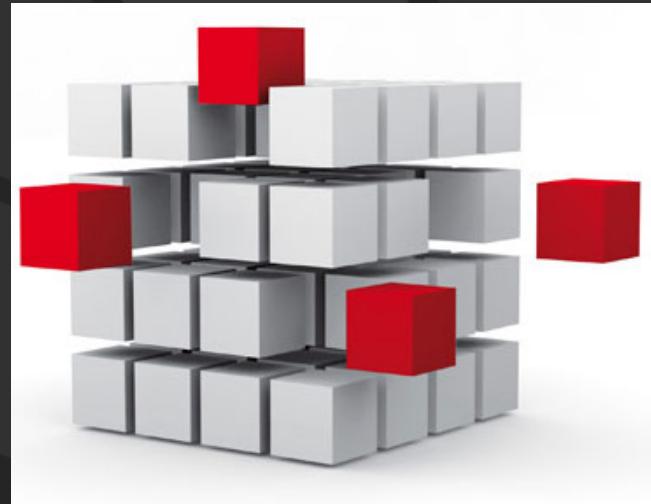


Jenkins at GitHub

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

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 #6 : design for extensibility



→ Multiple technical solutions (incl. @Inject)

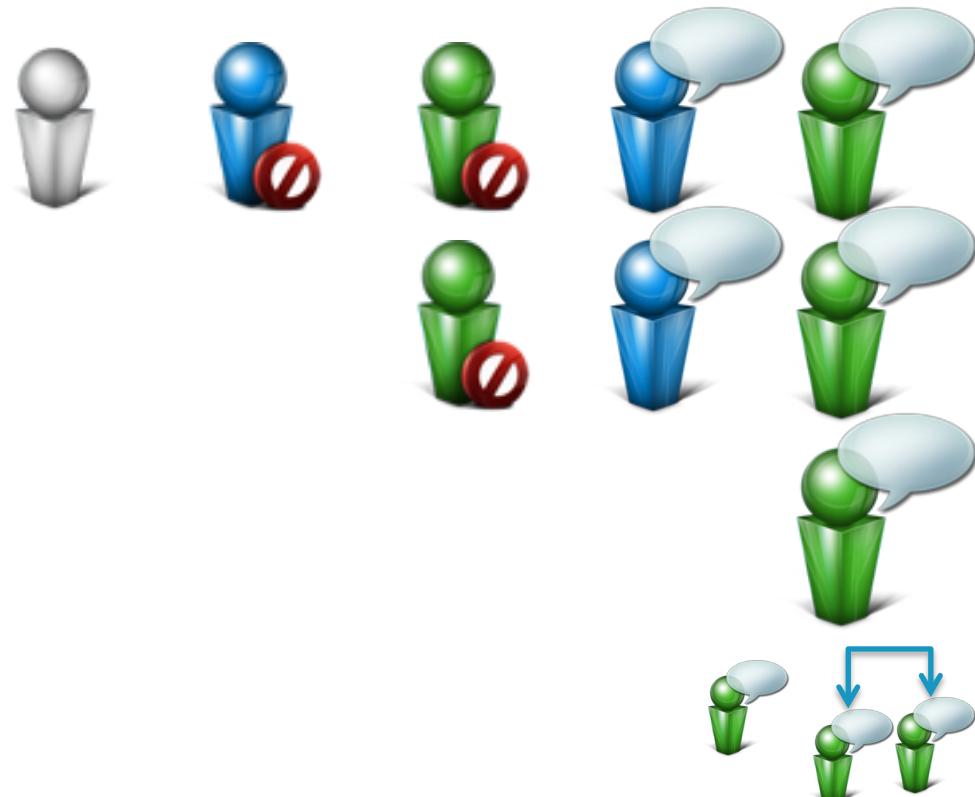
OpenSource model

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

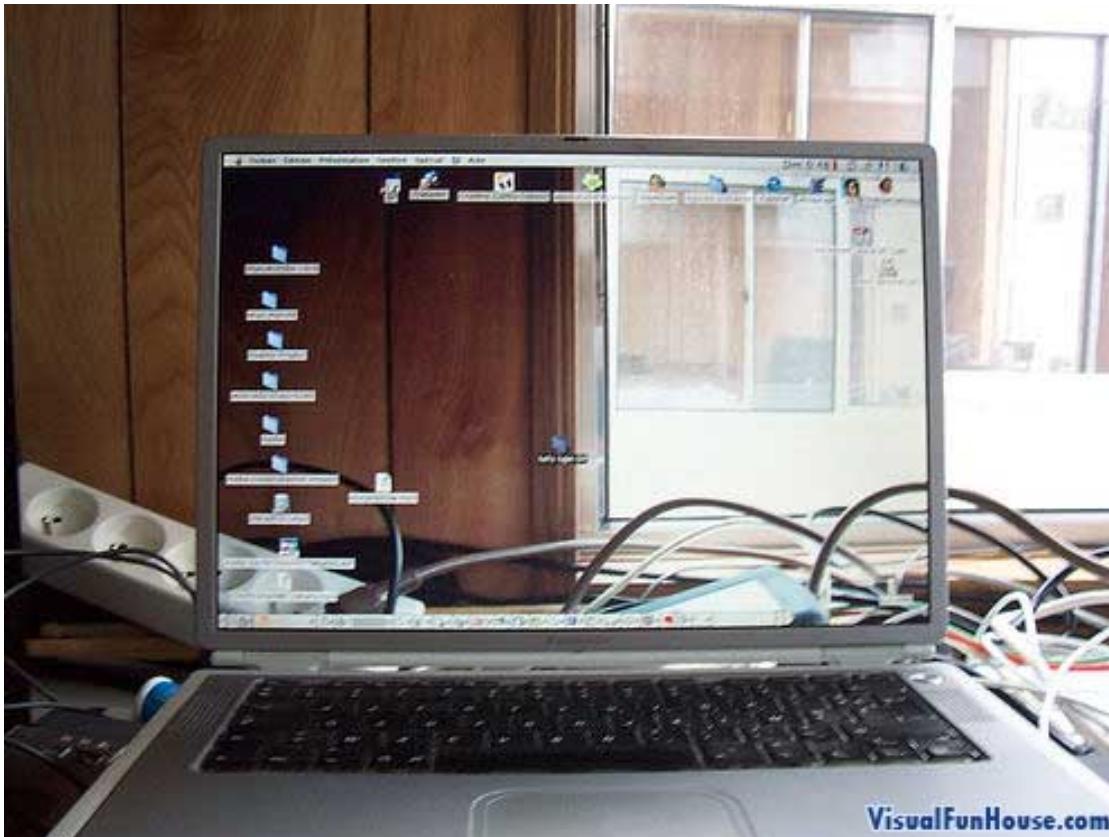
... but we don't have to « filter » committers anymore

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>

The Jenkins way

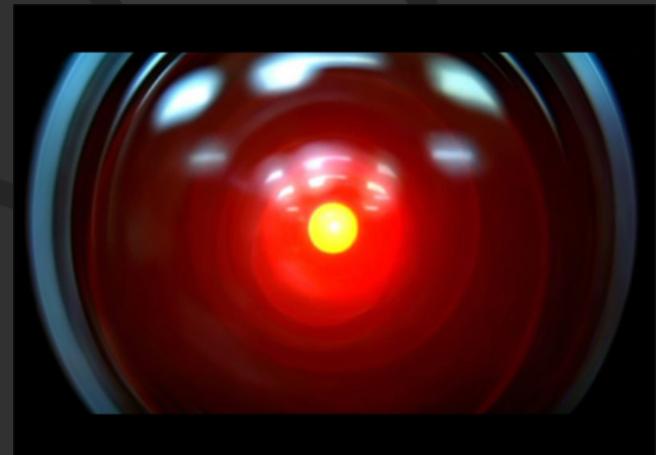
Rule #4 : Make things transparent



VisualFunHouse.com

OpenSource model

Who's the boss ?



Lead

- Right, project needs some sort of 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
❖❖❖

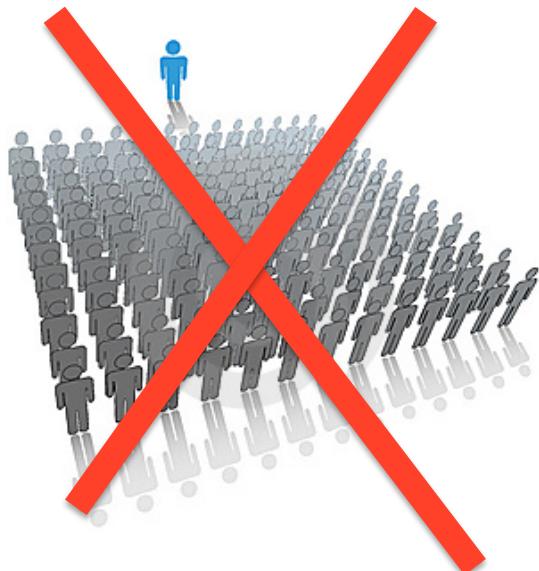
- Kohsuke Kawaguchi
- Andrew Bayer
- Dean Yu

(all from != companies)

And discuss in public !

The Jenkins way

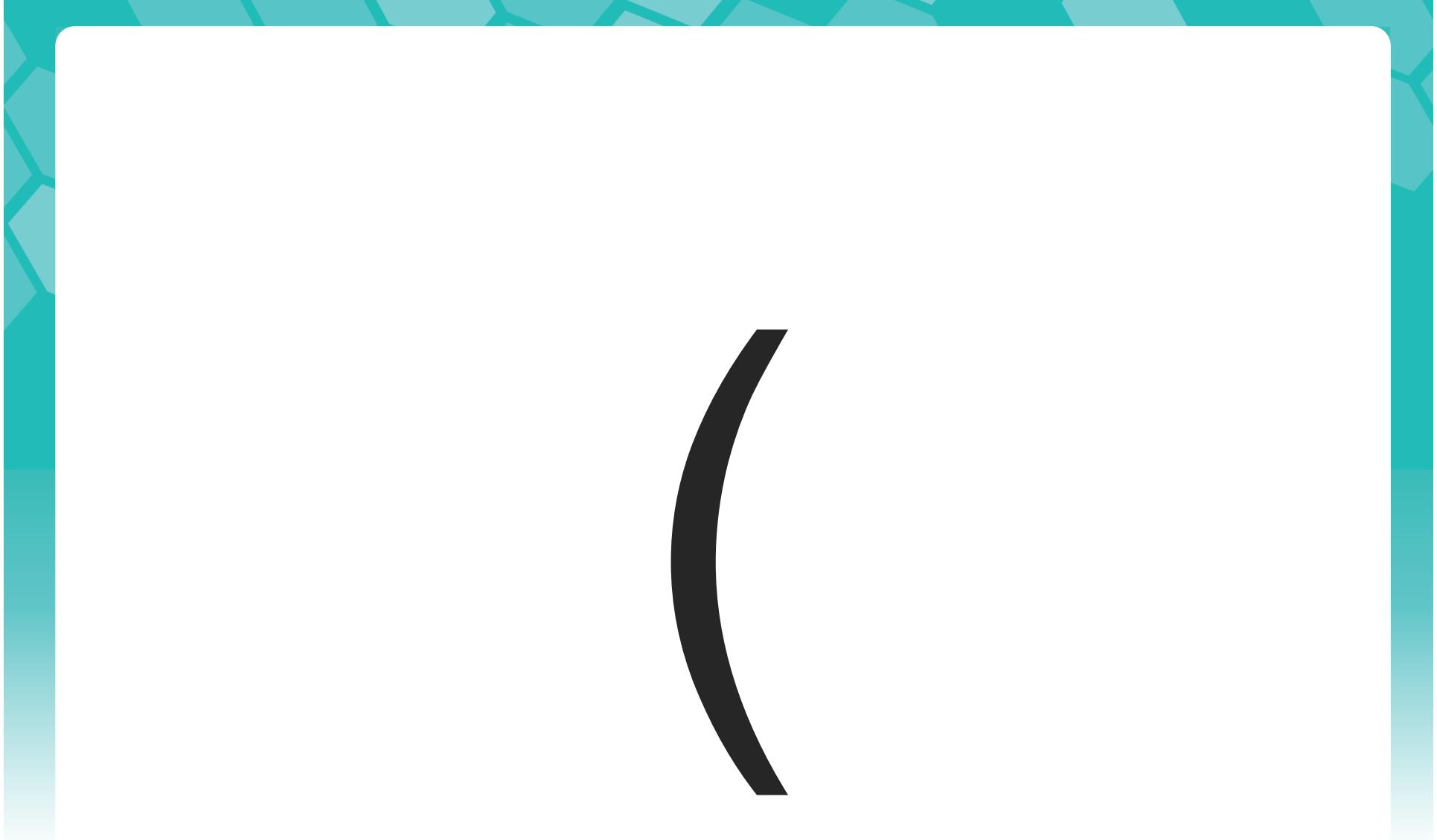
- Rule #5 : choose a good Lead model



→ focus first on building a community

Opensource (x)or Business ?

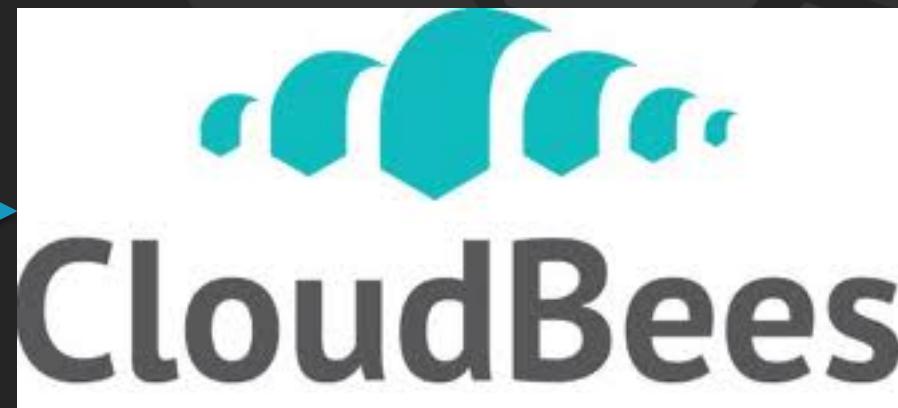






Jenkins

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

Merge:

- Merged by stephenc on June 03, 2011, merging commit a5f8484 into jenkinsci:master from stephenc:master.

Nectar value for enterprises

- Q&A, stabilised + support ([here I am!](#))
- Some enterprise plugins
 - Security (RBAC)
 - Virtualisation, auto-scaling, hypervisor integration
 - Jobs classification (folders)
 - Advanced Backup
 - ...

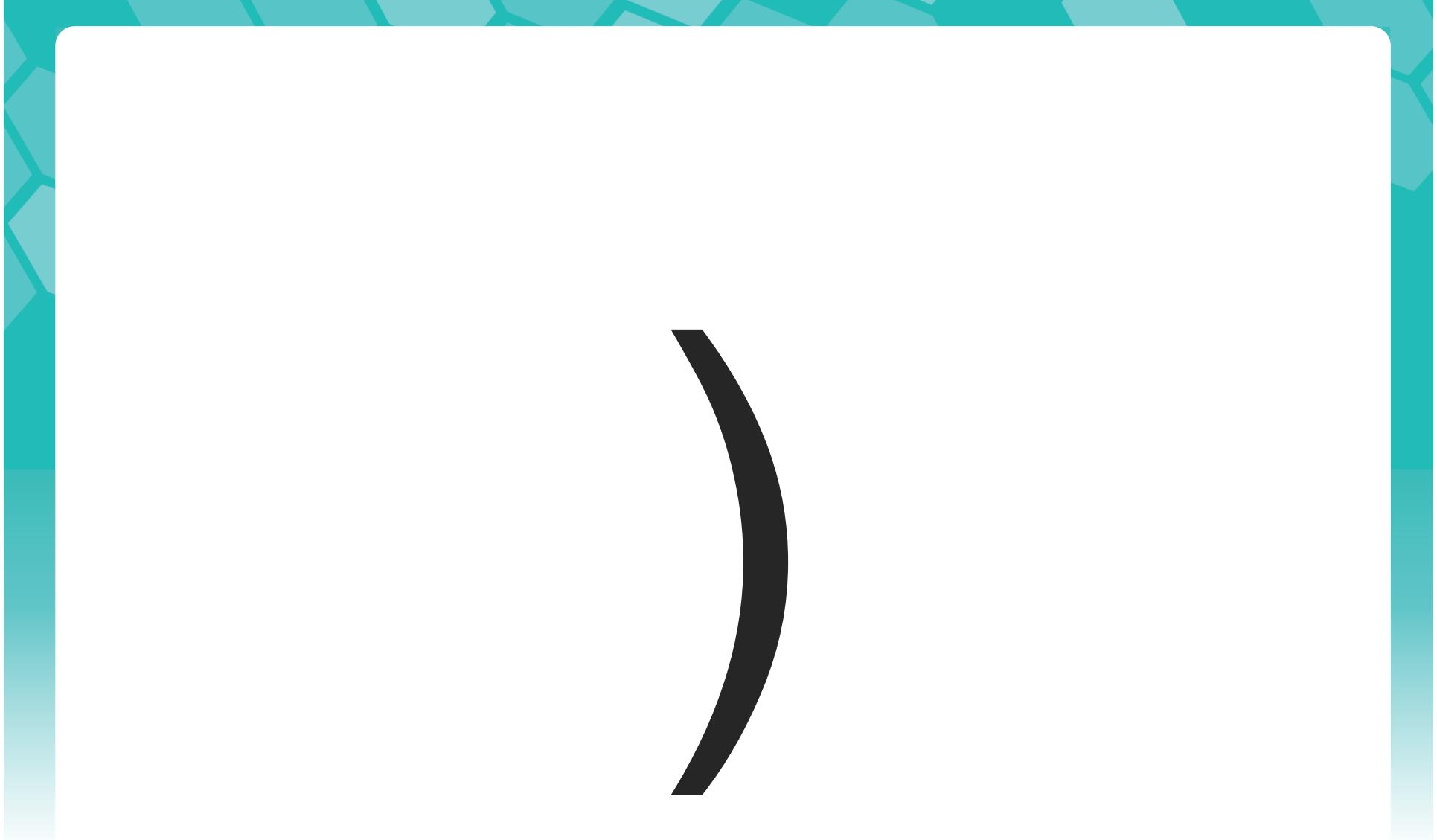
DEV@Cloud Private Edition

- 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







Does Jenkins model apply
elsewhere ?

Does Jenkins model apply elsewhere ?

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



Applying rules

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

Does it work ?

- Future will say...
- Already 3 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

Thank you

Q&A

