Rebuilding the airplane at 10 000m

Continuous Deployment with Jenkins and Gerrit

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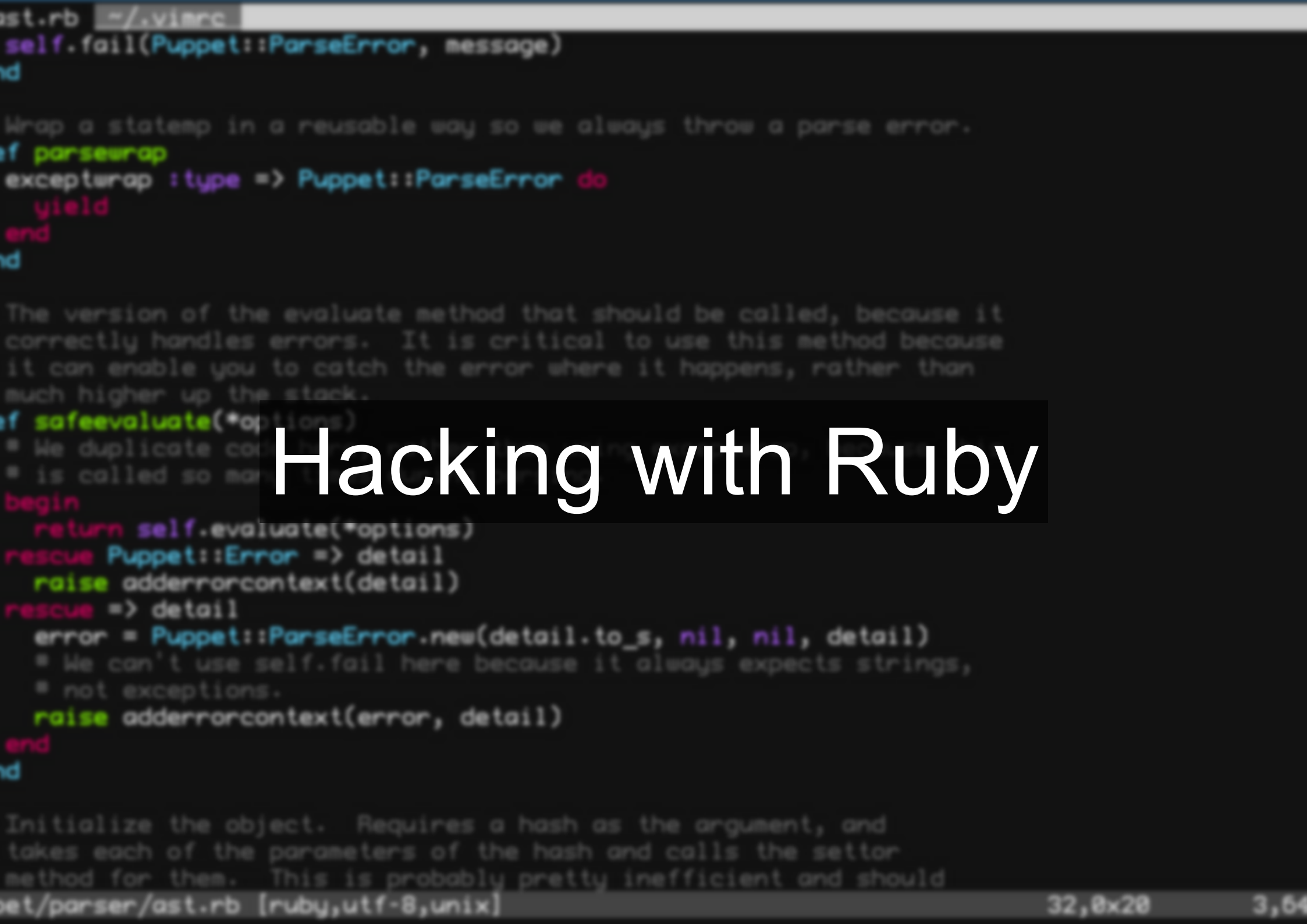
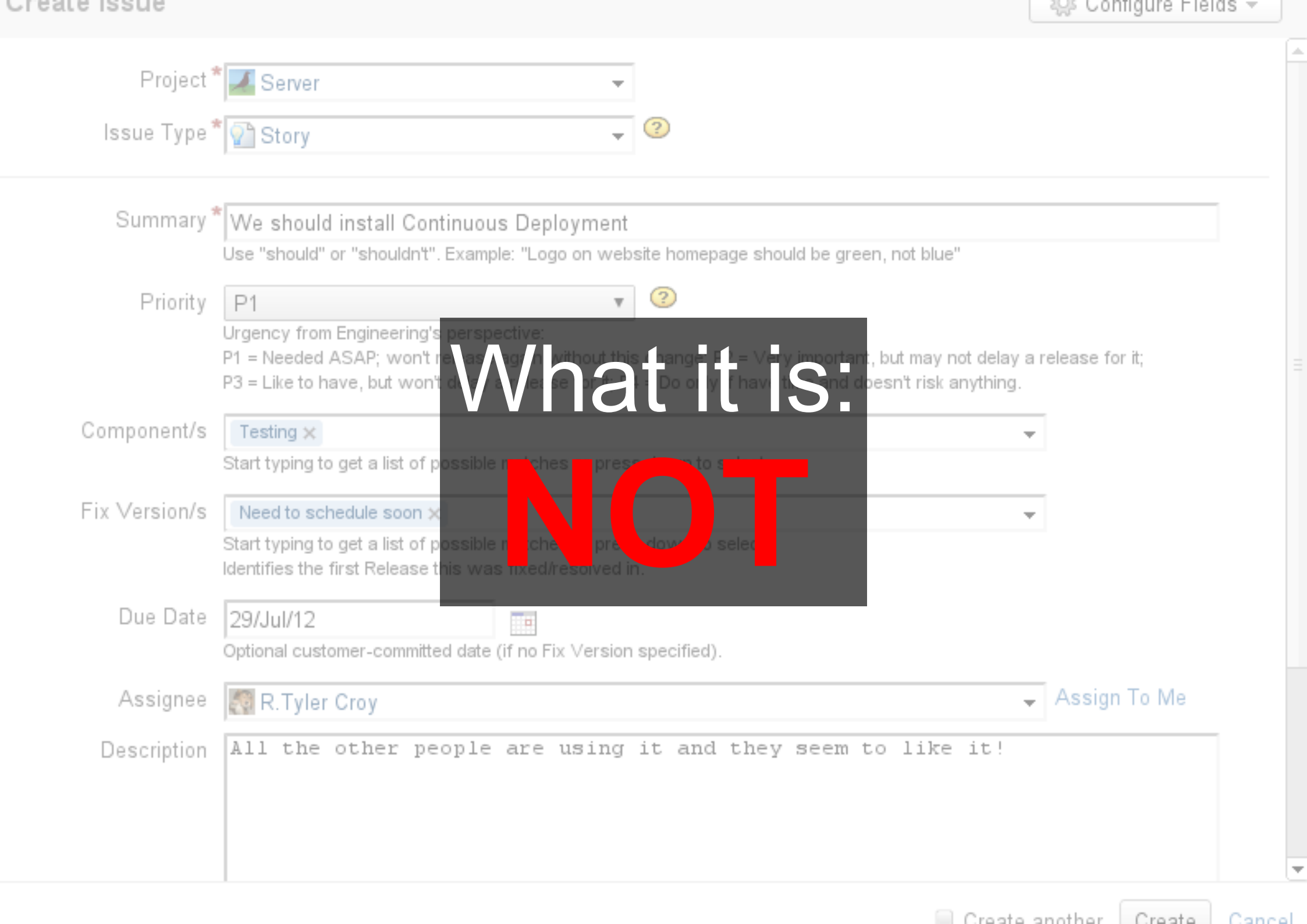
@jenkinsci

Jenkins Infrastructure
with
Puppet

lookout
MOBILE SECURITY
I work for Lookout


Hacking with Ruby

Let's talk about:
continuous deployment

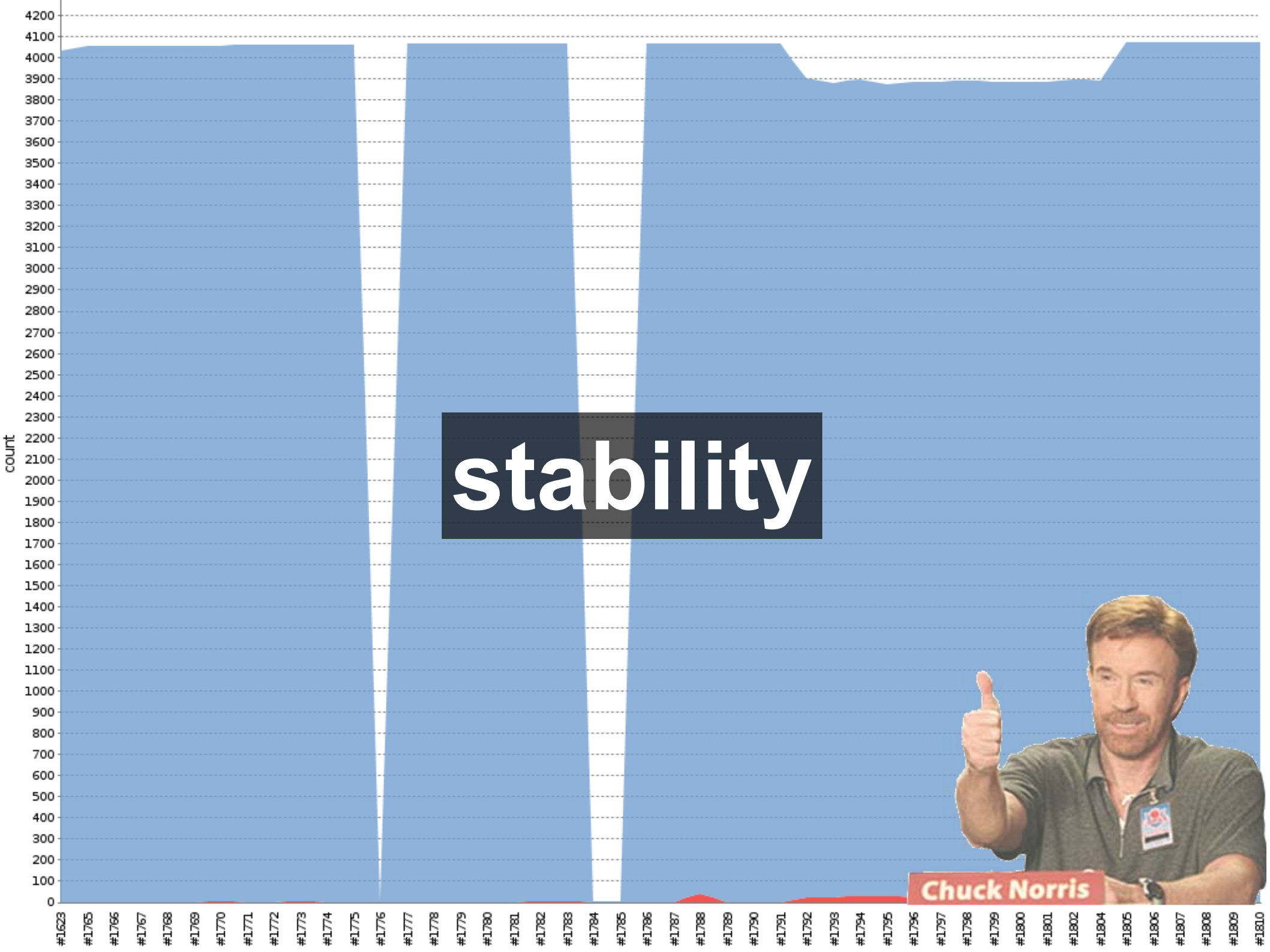

Create Issue
Configure Fields
Project * Server
Issue Type * Story
Summary * We should install Continuous Deployment
Use "should" or "shouldn't". Example: "Logo on website homepage should be green, not blue"
Priority P1
Urgency from Engineering's perspective:
P1 = Needed ASAP; won't release without this change
P3 = Like to have, but won't delay release for it
= Very important, but may not delay a release for it;
= Do only if have time and doesn't risk anything.
What it is:
NOT
Component/s Testing
Start typing to get a list of possible matches, press down to select.
Fix Version/s Need to schedule soon
Start typing to get a list of possible matches, press down to select.
Identifies the first Release this was fixed/resolved in.
Due Date 29/Jul/12
Optional customer-committed date (if no Fix Version specified).
Assignee R.Tyler Croy
Assign To Me
Description All the other people are using it and they seem to like it!
Create another
Create
Cancel

"Release *everything*
as soon as possible!"

"Great! No need for a QA team"

"Our users will be our testers!"

Continuous Deployment
is about


count
4200
4100
4000
3900
3800
3700
3600
3500
3400
3300
3200
3100
3000
2900
2800
2700
2600
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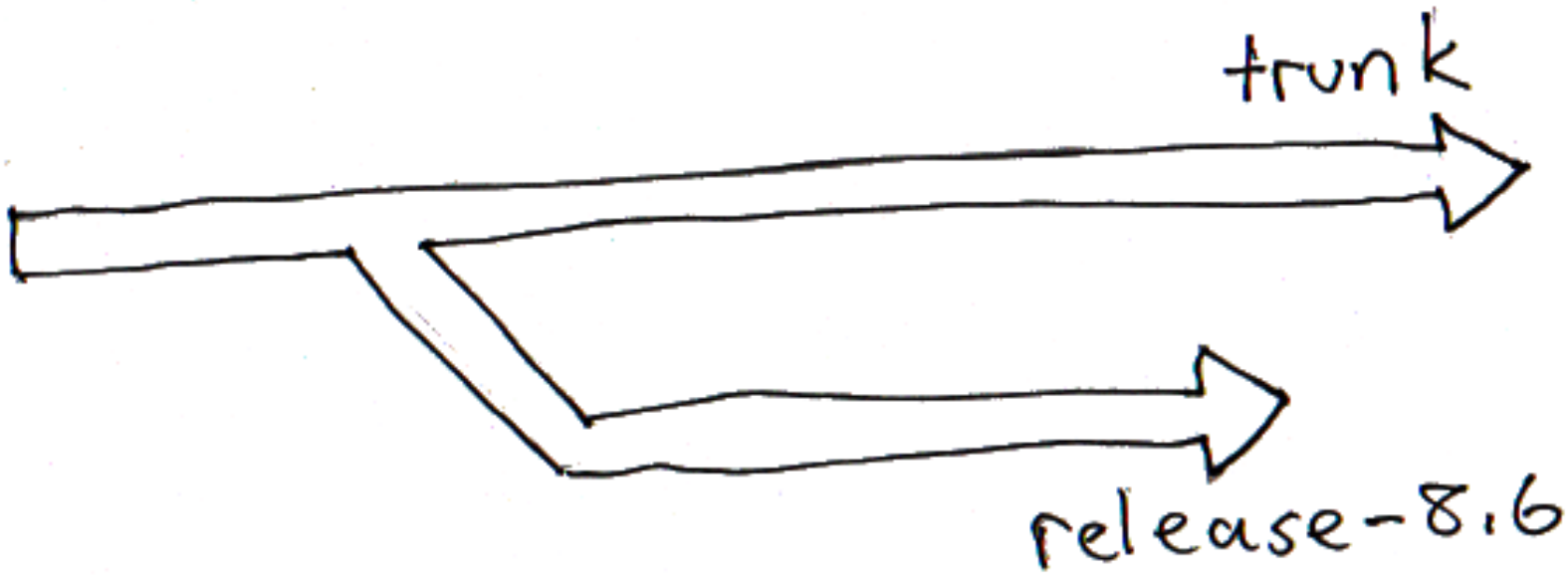
#1810
stability
Chuck Norris

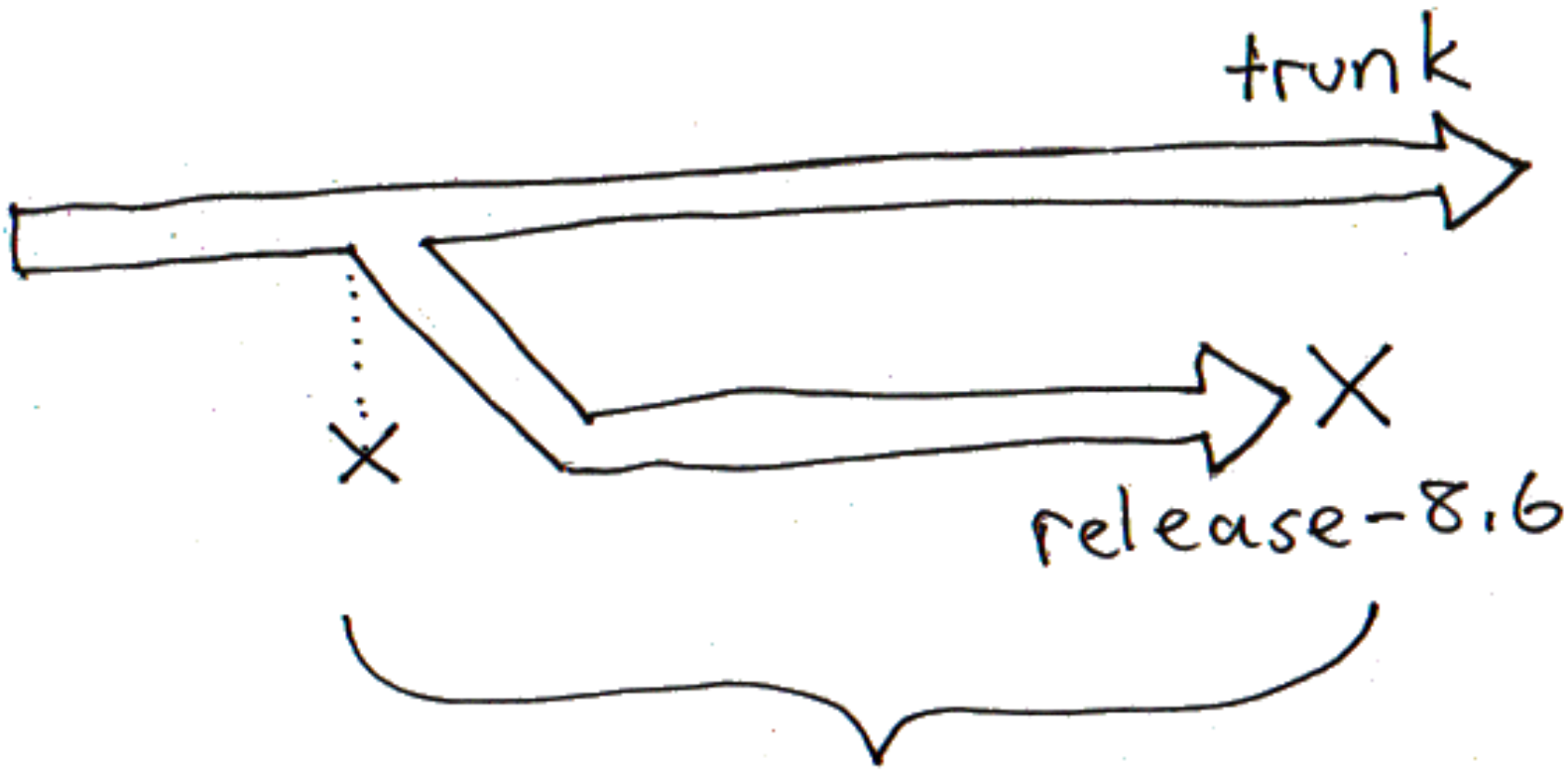
Faster
with
More Confidence

Continuous Deployment is
GOOD

lookout
MOBILE SECURITY
Meanwhile at Lookout

Subversion branches for releases





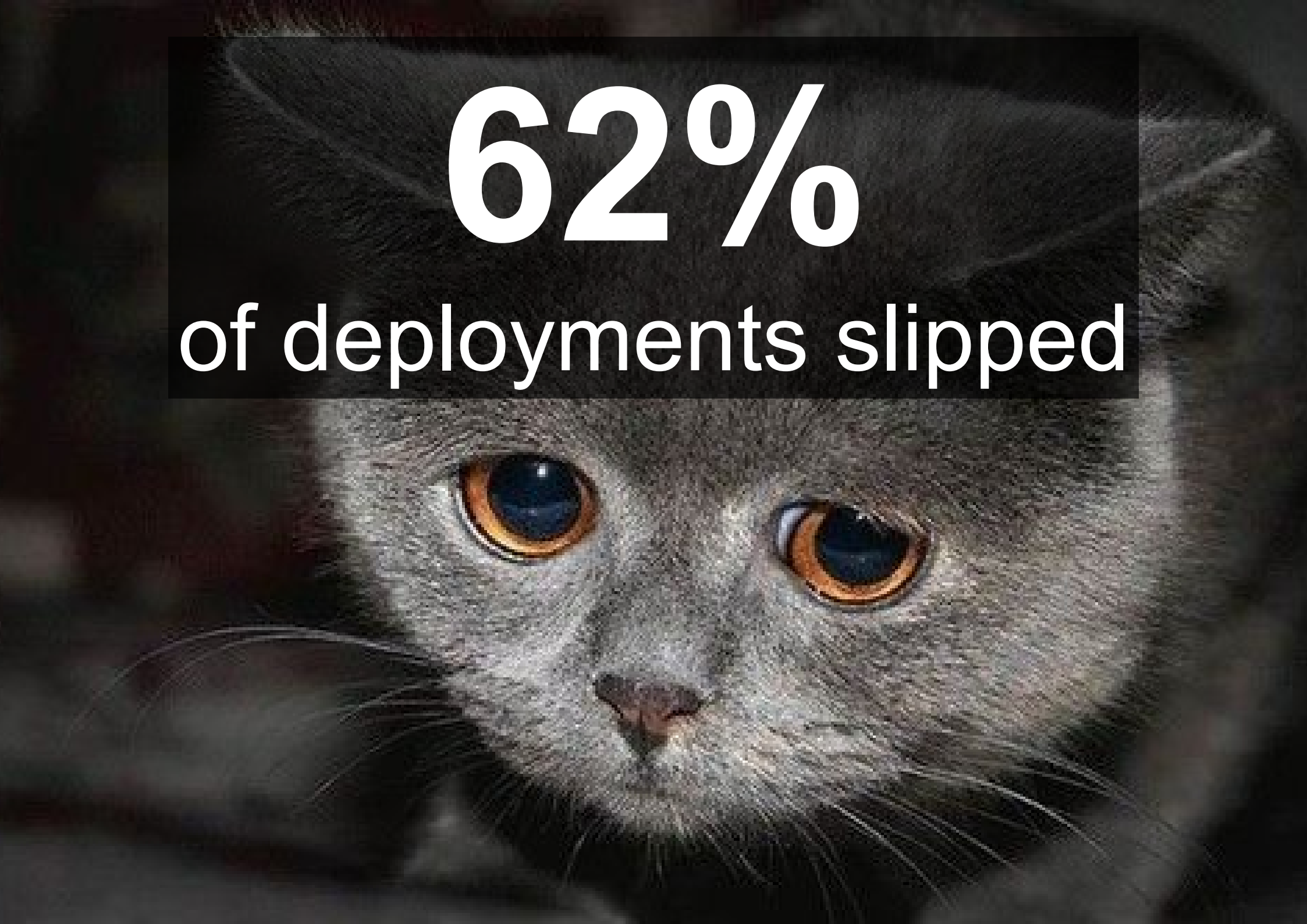
10-18 days per release branch

manual code review

very little automation

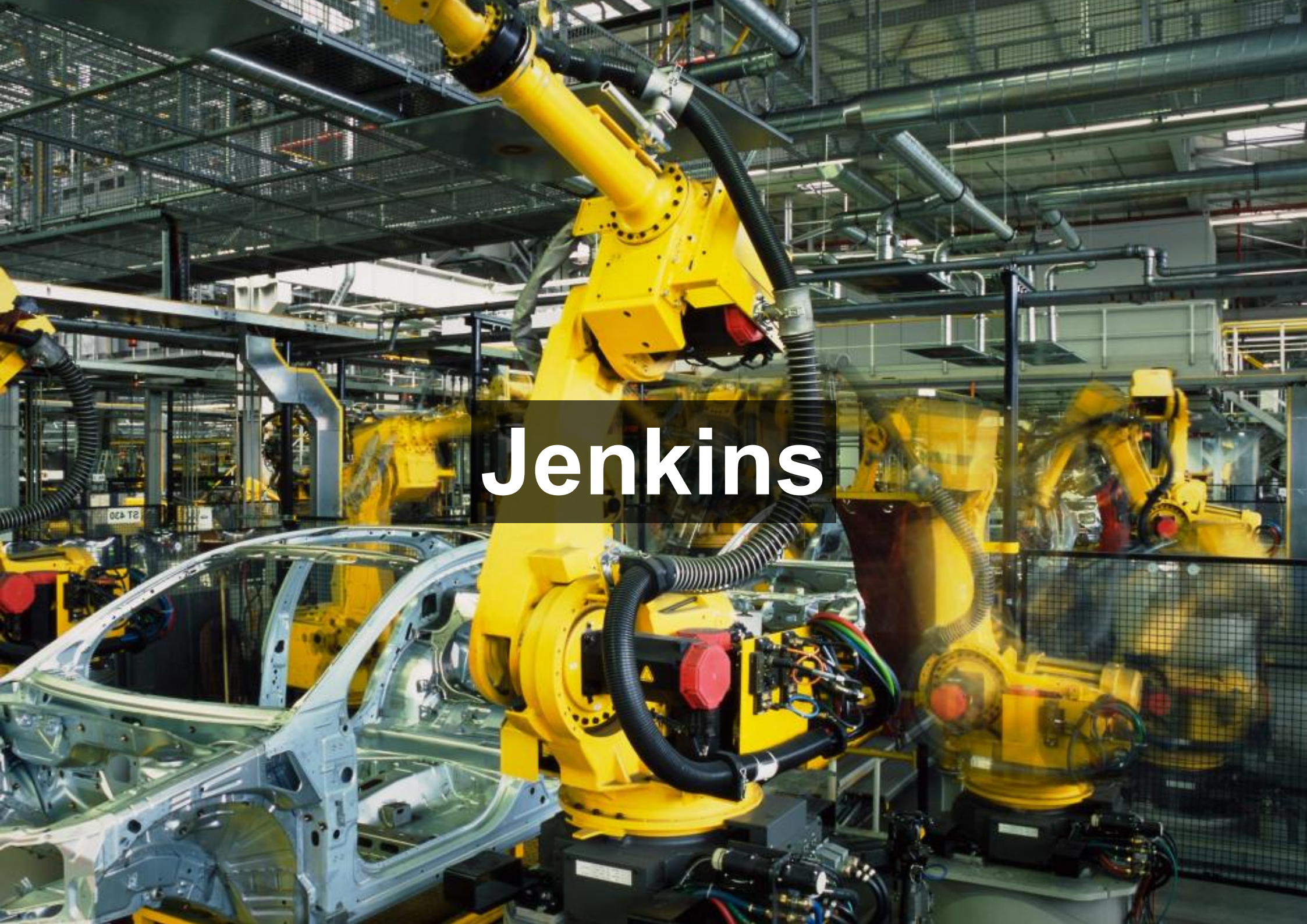
36%
of deployments failed

68
commits per deployment


62%
of deployments slipped

Let's fix this.

Step One:
Automate Development


Jenkins

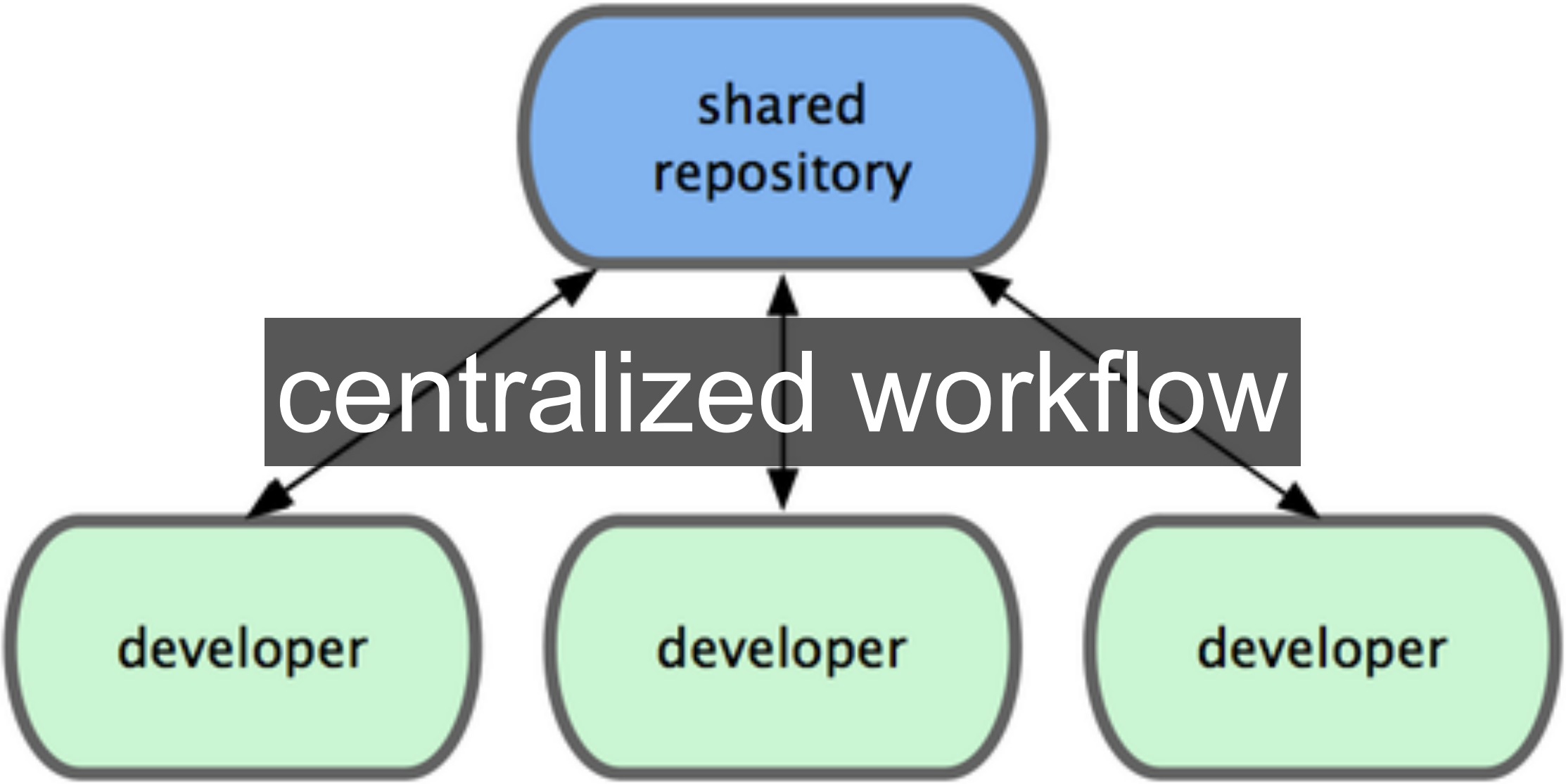
"Why don't our tests pass?"

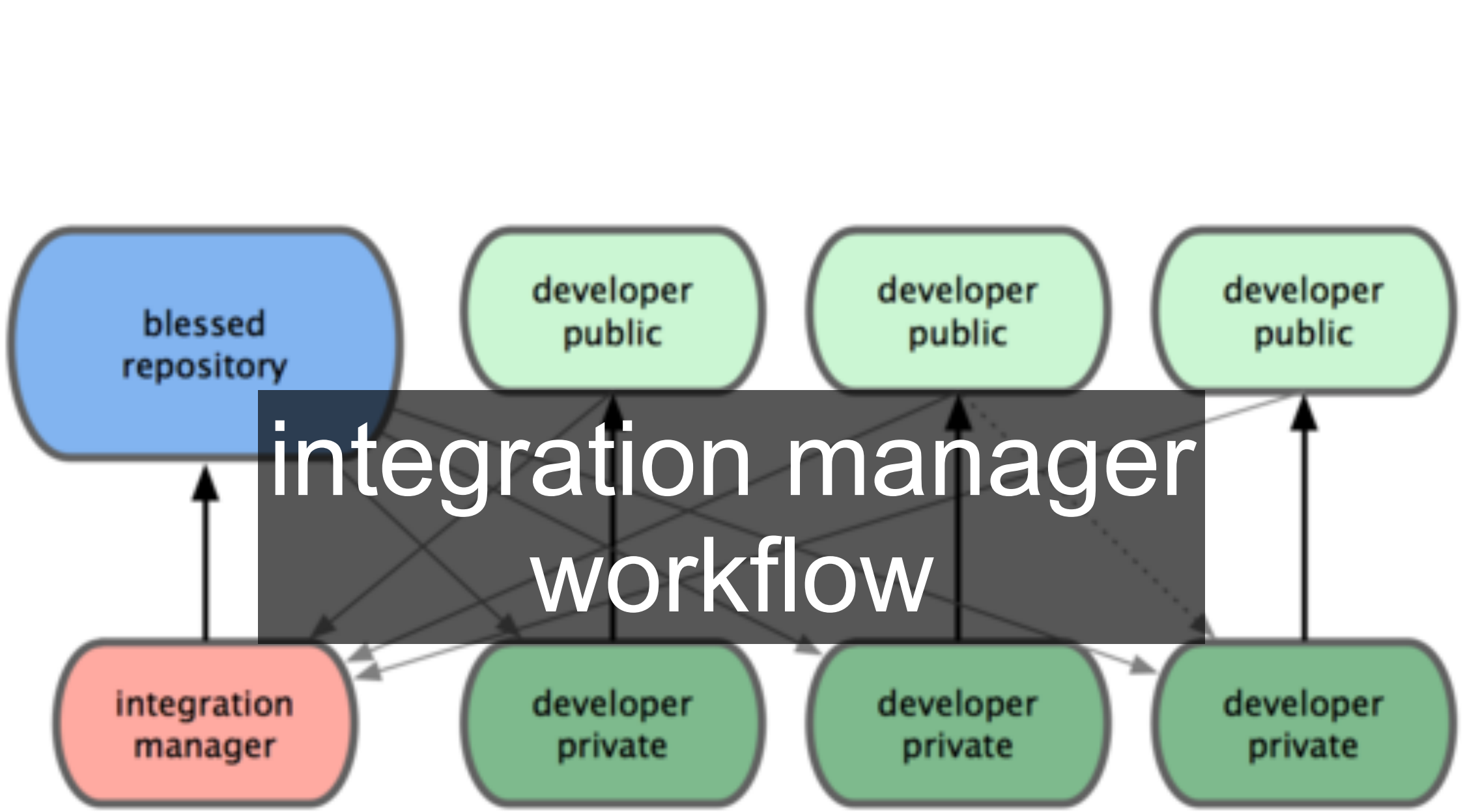
Never stop automating.

Step Two
Better tools, processes

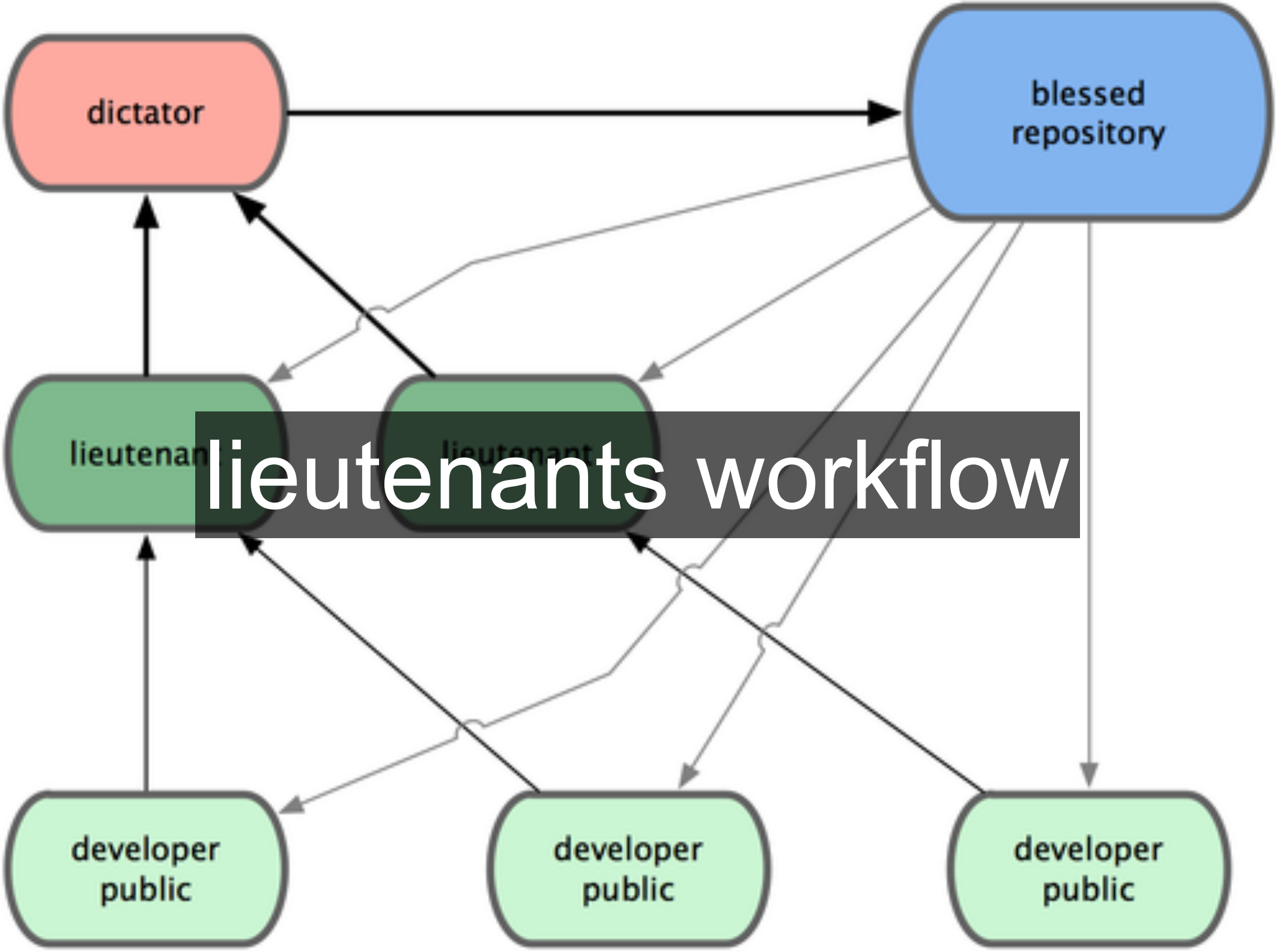
(*I don't like SVN*)

Git
USAG 374N/35
AV 30 cm
sola
BAHCO ergo 8071 MADE IN SWEDEN
MADE IN FRANCE
3,0 x 75
C 302 Wiha SoftFinish
PH2 x 100
C 311 Wiha SoftFinish
PB SWISS TOOLS
PB 6510 R-30

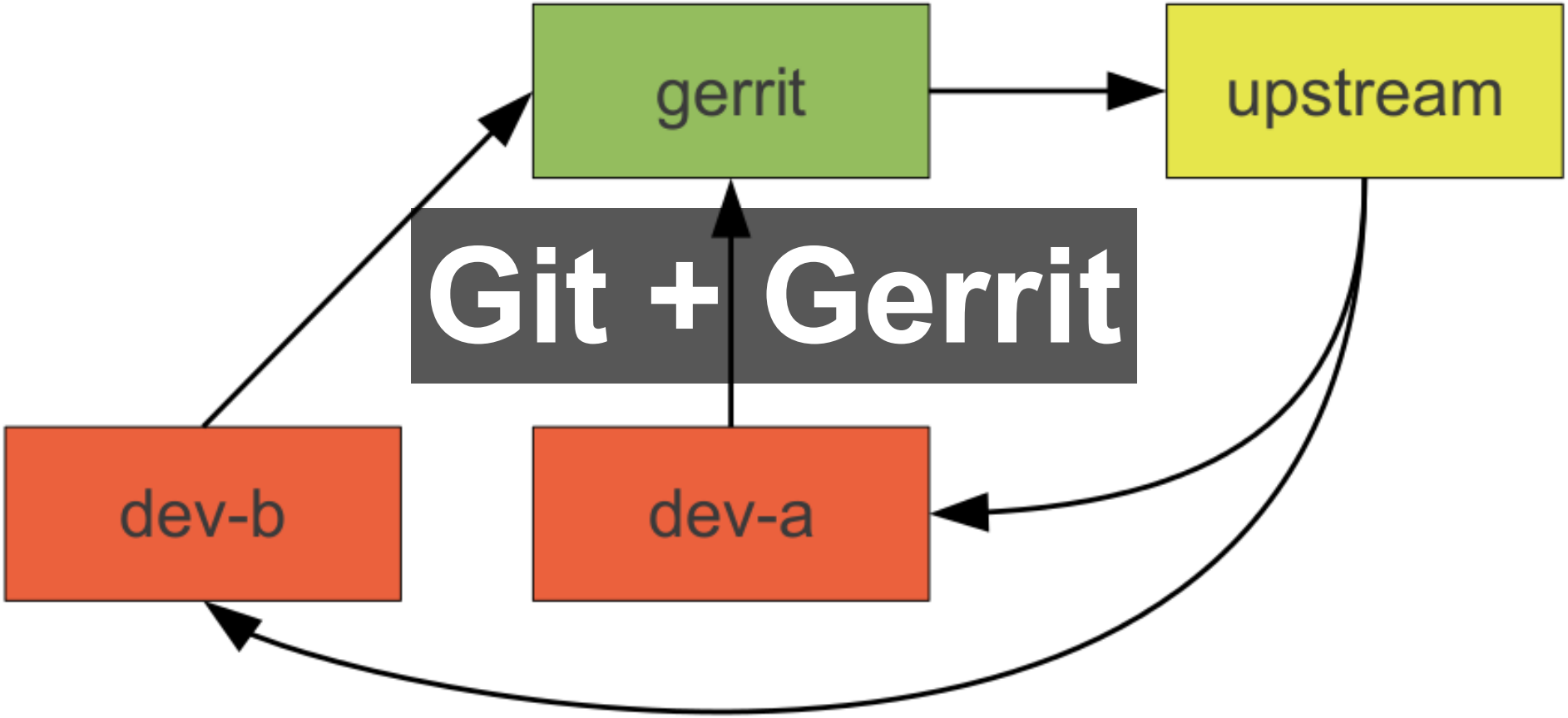

shared
repository
centralized workflow
developer
developer
developer



integration manager workflow



lieutenants workflow


gerrit
upstream
Git + Gerrit
dev-b
dev-a

Documentation
Watched Changes
Starred Changes
Dashboard for Tyler Croy
Owner
Project
Branch
Tyler Croy
Gerrit

code review
ude "ttyclock.h"
ude <stdlib.h>
void)
struct sigaction sig;
ttyclock->bg = COLOR_BLACK;
/* Init ncurses */
initscr();
cbreak();
noecho();
keypad(stdscr, True);
start_color();
#include "ttyclock.h"
#include <stdlib.h>
void
init(void)
{
struct sigaction sig;
ttyclock->bg = COLOR_BLACK;
int *derp = NULL;
(Draft)
Draft saved
Poor variable naming
Edit
int foo = 1 + *derp;
(Draft)
Draft saved
This is a seriously terrible idea.
Edit
/* Init ncurses */
initscr();
cbreak();
noecho();
keypad(stdscr, True);
start_color();

```
struct sigaction sig;
ttyclock->b
int *derp = NULL;
```

collaboration

rieger Poor variable naming

```
int foo = 1 + *derp;
```

rieger This is a seriously terrible idea.

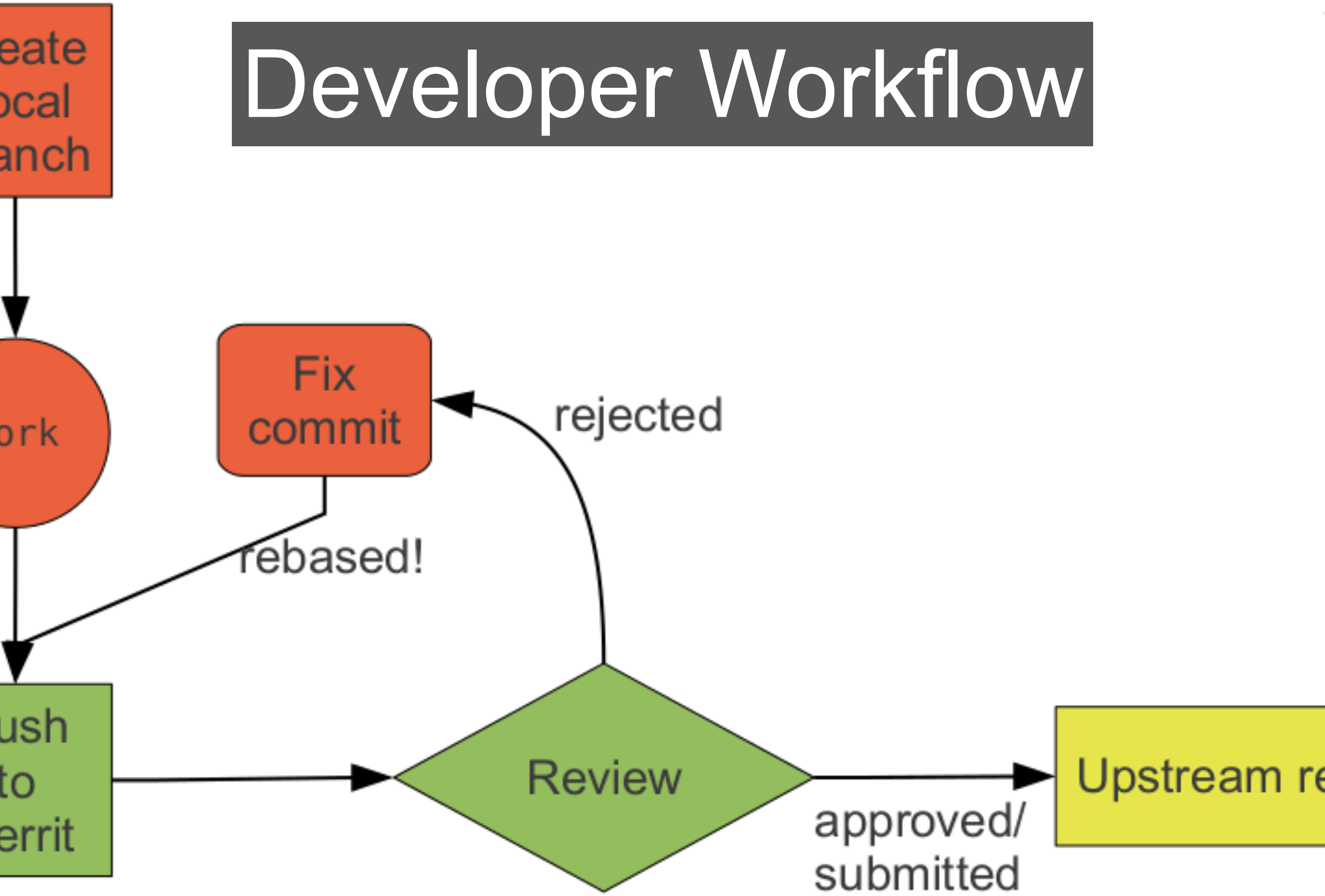
tte Girl please

a Kane Jesus christ Archer! Are you an idiot?

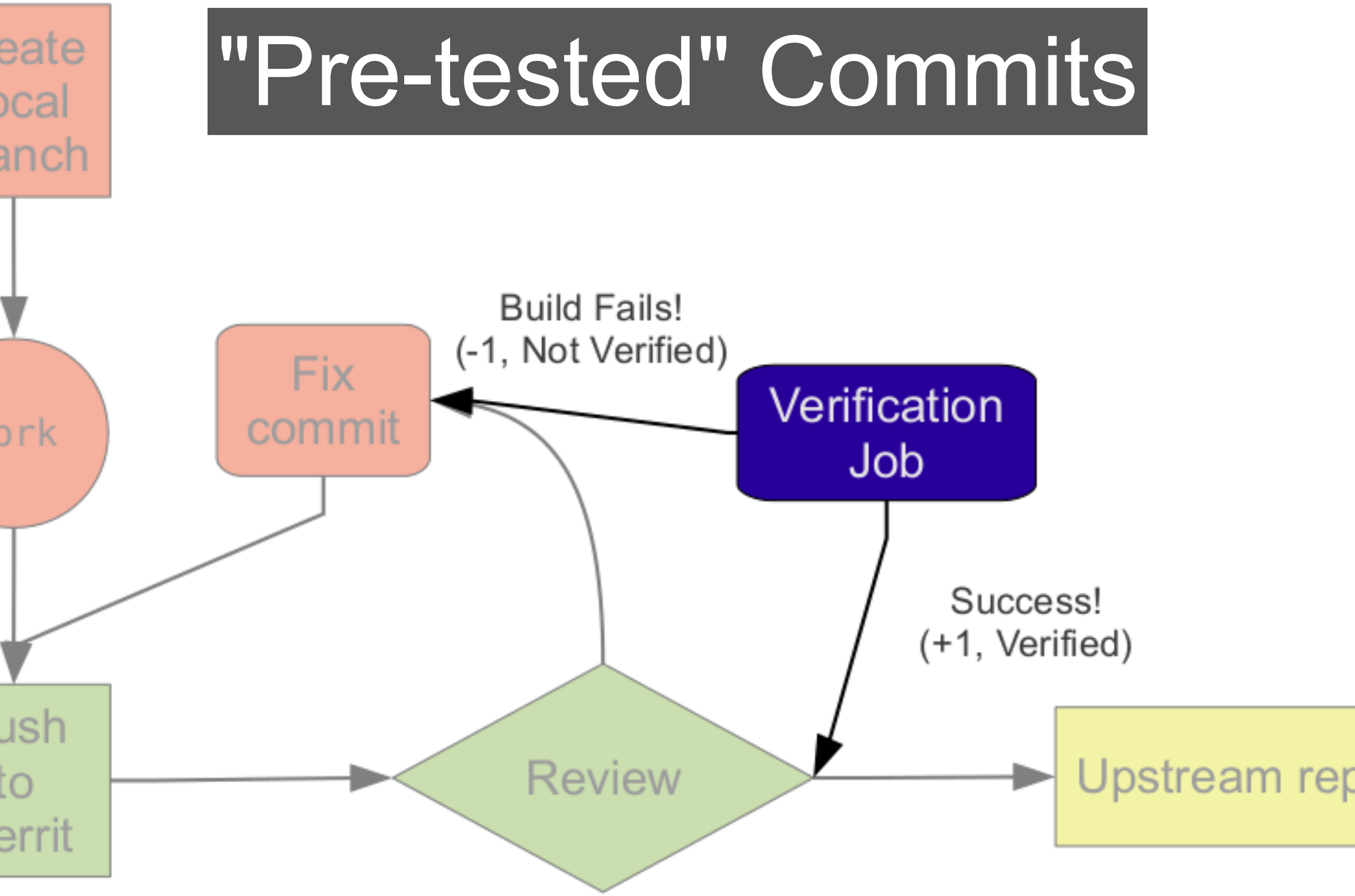
ling Archer Watch it Lana, you're in the *danger zone*

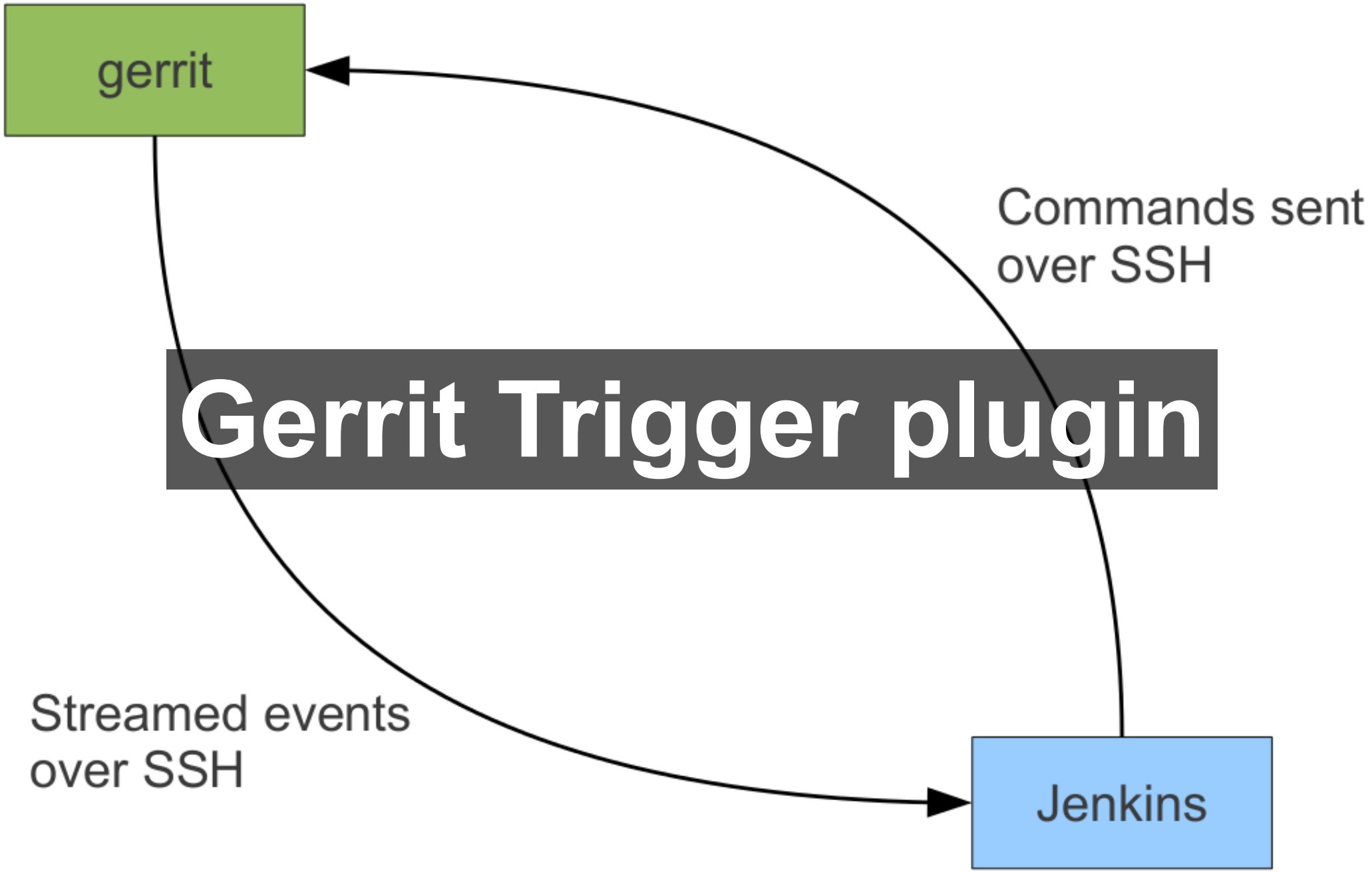
```
/* Init ncurses */
```

Developer Workflow



"Pre-tested" Commits




gerrit
Commands sent
over SSH
Gerrit Trigger plugin
Streamed events
over SSH
Jenkins

Feedback in Gerrit

Uploaded	Oct 1, 2011 12:42 PM
Updated	Oct 1, 2011 12:44 PM
Status	Review in Progress

Permalink

Reviewer	*Verified*	*Code Review*	
Leeroy	✘		Fails

- Need Verified +1 (Verified)
- Need Code Review +2 (Looks good to me, approved)

Name or Email | Add Reviewer

▶ **Dependencies**

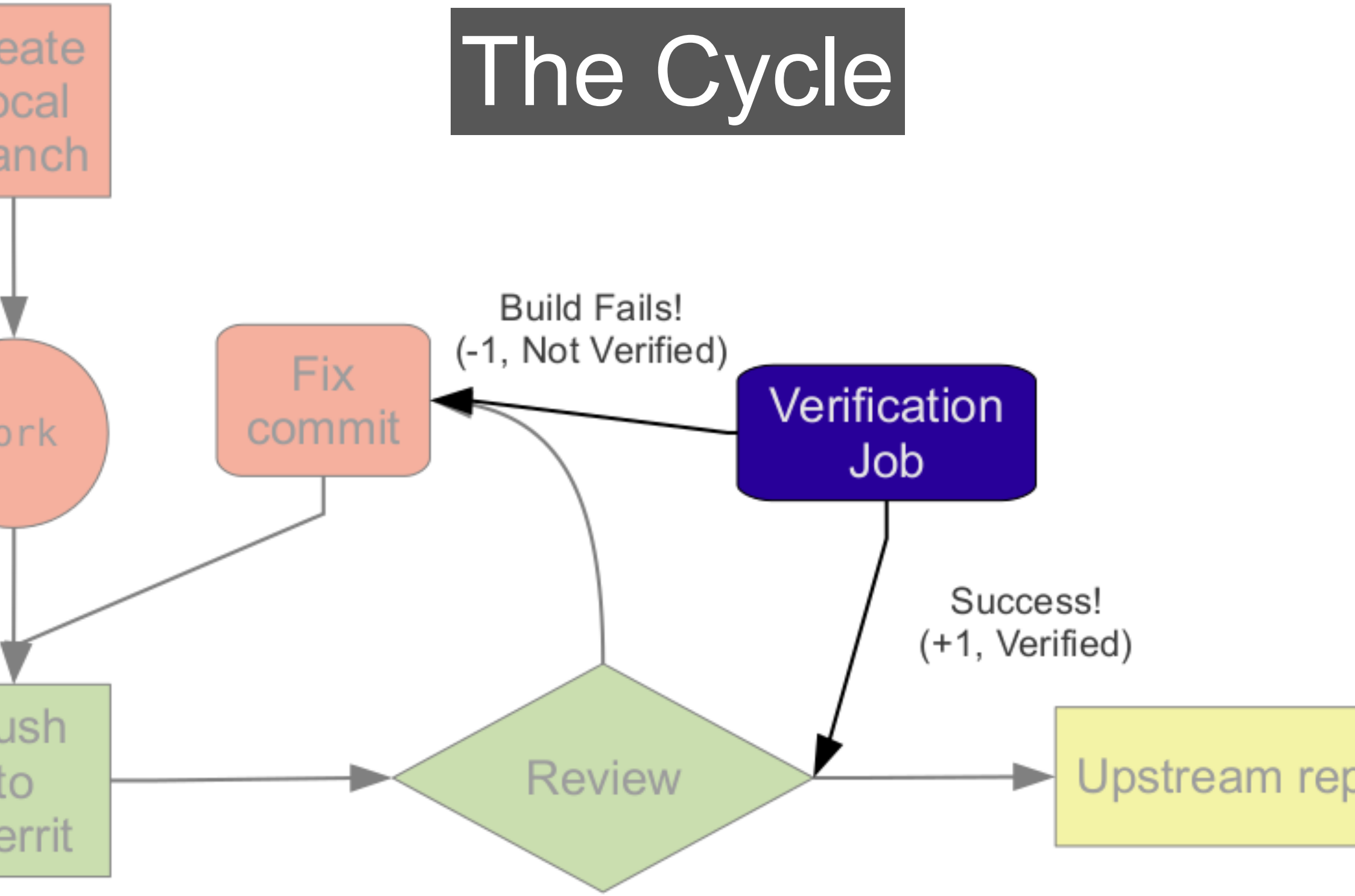
Old Version History: Base ▼

▶ **Patch Set 1** 2b46eeeb675841f5e796e2e2910d2eee743c234e

▶ **Patch Set 2** a607d3649f17c69070d06163bcc91442ec1eae0f

▶ **Patch Set 3** 2a32f079abcb0ad09a4c59a2a2737a76b11591e9

The Cycle


eate
ocal
anch
ork
Fix
commit
Build Fails!
(-1, Not Verified)
Verification
Job
Success!
(+1, Verified)
ush
to
errit
Review
Upstream rep

Demo!

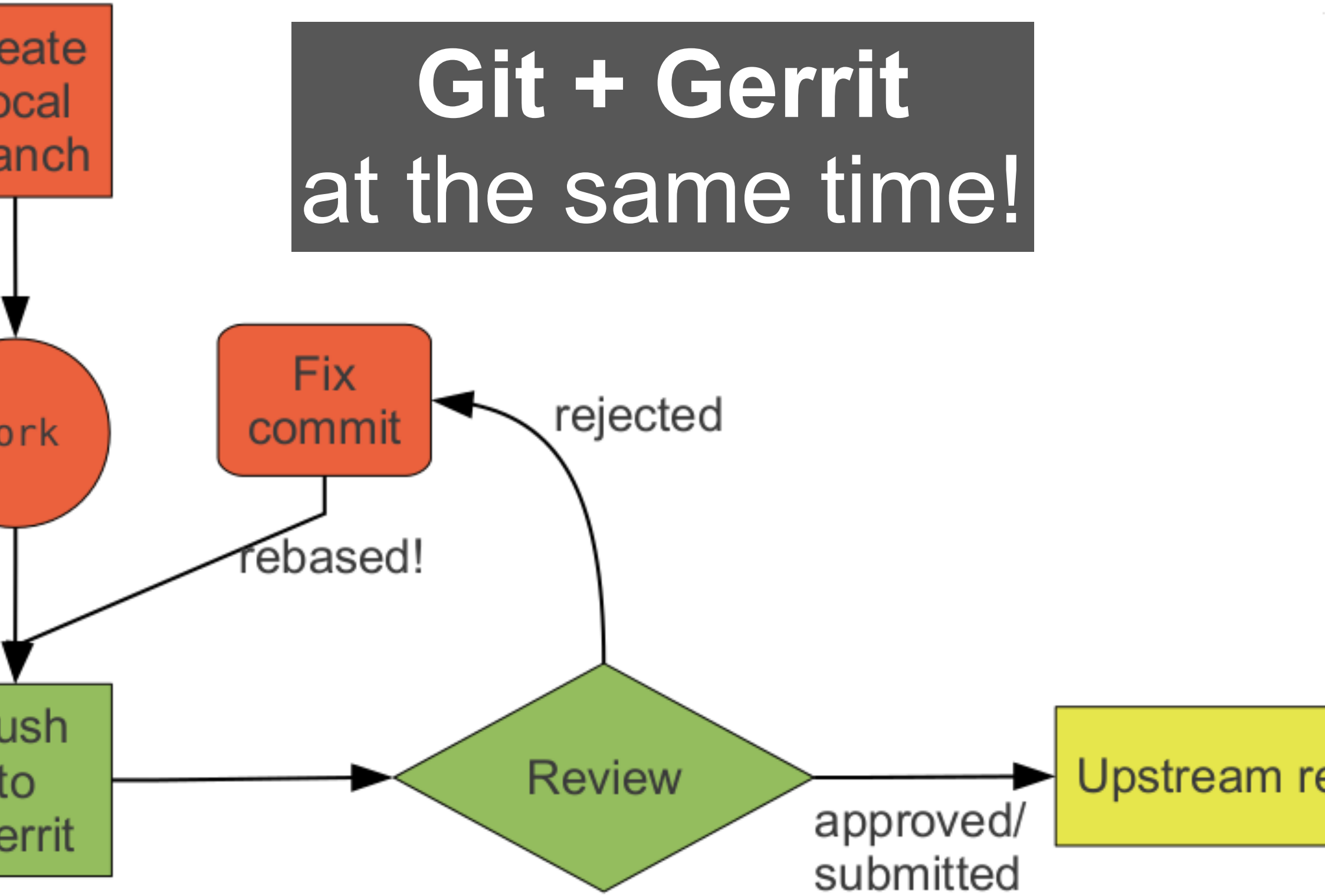
ot | kiwi.coupleofllamas Code Review - Chromium
olor
e Root | kiwi.couplec
blimpy-gerrit [Jenkins]
kiwi.coupleofllamas.com:8081/#/

de Review Dashboard for Charlie Root

D	Subject	Owner	Project	Branch	Updated
ed by Charlie Root					
one)					
w Requests for Charlie Root					
one)					
tly closed					
4bf3bdd0	This is a simple change to exercise the jenkins integration (MERGED)	Charlie Root	blimpy	master	Jul 27
2c0a8945	Add some more notes to the readme (MERGED)	Charlie Root	juctokyo	master	Jul 27
107ae52b	Initial commit (MERGED)	Charlie Root	juctokyo	master	Jul 27

♪ 82% | v6: ⇓ | W: ⇓ | E: 192.168.0.188 (100 Mbit/s) | CHR 98.68% 00:14:32 | 54°C | 0.58 | 2012-07-28

Git + Gerrit
at the same time!



"We need more builders!"

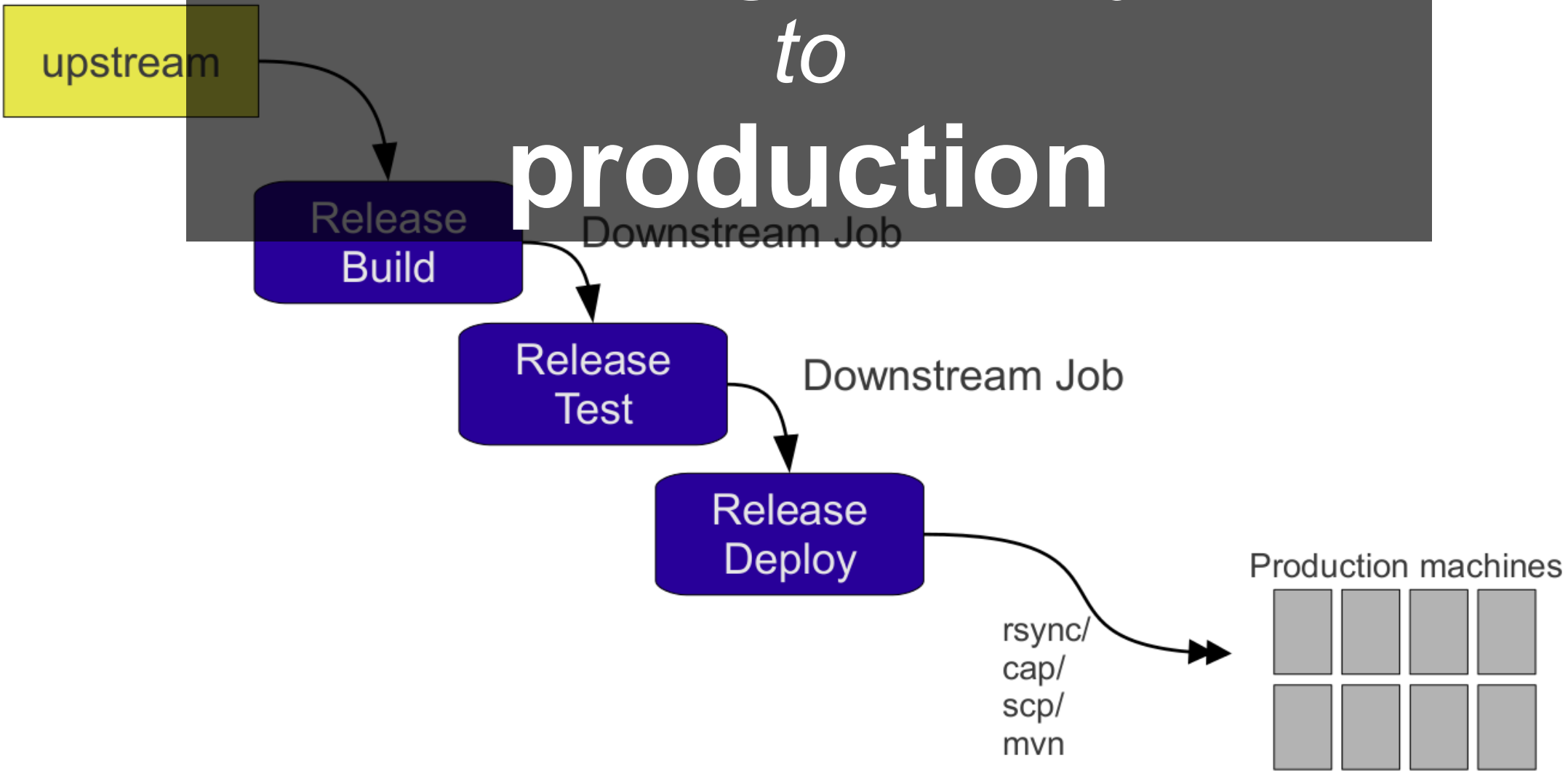
Recap

Step Three
Automate Everything Else

Deploying test environments

New kinds of tests

Automating deployment *to* **production**



Step Four
More Robots!

OpenStack
and the
jclouds plugin

Slave Management
with
Puppet

TODO

(nobody's perfect)

No automated rollback

No production acceptance testing

Tests are **slow**

2%
of deployments failed

14
commits per deployment

3%
of deployments slipped

Questions?

Thank you