# Collaboration Upstream / Downstream

## Forum PHP 2015 - Paris

Présenté par :

### Remi Collet

Senior Software Engineer, Red Hat Inc.
PHP developer.

# Summary

1. Introduction
2. Downstream work
3. Upstream / Downstream
4. Koschei : Fedora CI
5. Questions

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# Introduction

# Remi Collet

- 1998 : PHP 3.0 user
- 2005 : Remi's RPM repository / LAMP
- 2006 : Fedora contributor (PHP stack)
- 2007 : Fedora PHP co-maintainer
- 2011 : PECL developer
- 2012 : Fedora / Red Hat PHP maintainer
- 2012 : PHP developer

=> http://fr.linkedin.com/in/remicollet

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# Downstream work

# Goals

- Provide a usable PHP stack
- Maintain distribution consistency
- Maintain stability => QA
- Upstream first (Fedora policy)
- Full featured
- Developer tools

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# PHP

- Who still build PHP from sources ?

- Most extensions

- PHP sources splitted in 35 packages

- Using system libraries

  => Docker ?

# PHP Extensions / C

- Need development environment
- phpize / configure / make test
- pecl

=> pure PHP implementation

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# Applications

- Web applications
  - wordpress, roundcubemail...
- Developer tools
  - atoum, phpcd, phpunit, composer
- Distribution integration
- Filesystem Hierearchy Standard
  - /etc, /usr, /var
- Security / SELinux
- System libraries – no bundled libraries

# Libraries / pure PHP

- Libraries used by applications

- Frameworks

  - Symfony, Zend...

- pear

- composer / packagist

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# Autoloader

- Composer:
  - Install: generate auloader for all dependencies (explicit and implicit)
  - Update: change in dependencies tree => re-generate the autoloader.
- Packaged applications:
  - Each library provides its autoloader
  - Call each explicit dependency autoloader
  - Change in implicit dependencies tree are transparent

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# Downstream
# Upstream
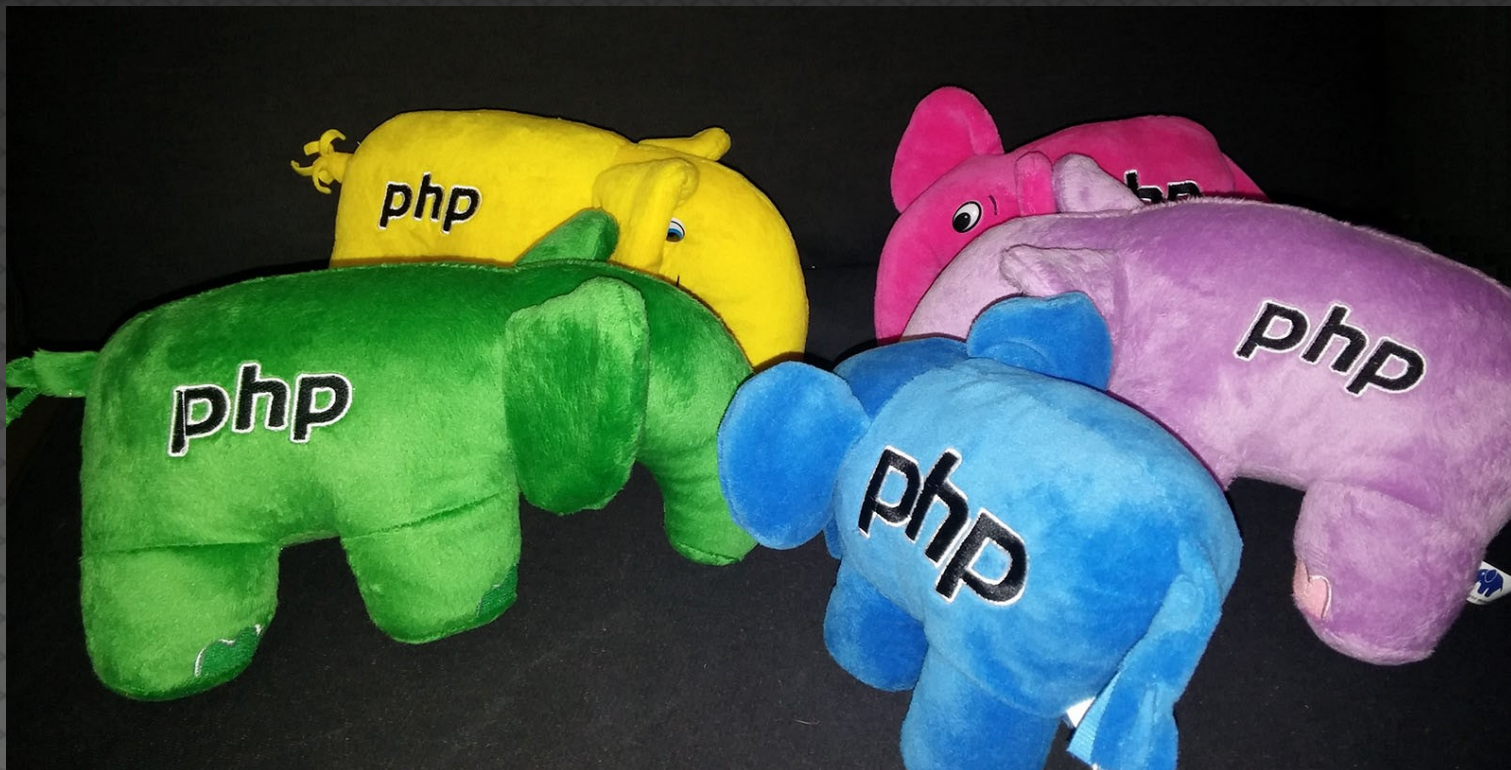
# Without downstream

- Upstream to users
  - Tagged versions
  - Documentation

- Users to upstream
  - Bug reports

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# Without downstream 2

- Upstream does downstream work
  - .phar distribution
- Downstream issues
  - Security issues
  - License issues
  - End user issues

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# With downstream

- Upstream => downstream
  - Sources and Versions
- Downstream => Users
  - Packages

- Users => downstream
  - Bug reports
- Downstream => upstream
  - Bugs and patches

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# With downstream 2

- Collaboration is win/win
  - Fewer bugs
  - More contribution
  - More QA

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# Expectations

- Users and Downstream
  - Documented API changes
    - => http://semver.org/
  - Documented changes
    - => http://keepachangelog.com/
  - Documentation
  - Versions, LTS and Stability
  - Bug tracking
  - Test suite

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# Expectations 2

- Upstream
  - Recent versions
  - Feedback
  - Contribution

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# Koschei
# Fedora CI

# Classical QA / CI

- CI often run by travis

- Build raised by code changes

- CI environment dependant

  - not debian, fedora, RHEL or any user used distribution

  - often late behind upstream

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# Fedora QA / Koschei

- CI of the full PHP stack

- Build raised by dependency changes

- Run for fedora rawhide (dev. Version)

- Most recent dependencies

- RC versions


=> https://apps.fedoraproject.org/koschei/

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# Koschei

- Recently found
  - ICU 56.1 breaks php-zendframework-zend-i18n
  - php-twig-1.23.0 breaks php-symfony-bridge-twig
  - php-twig-1.23.0 breaks php-twig-extensions
  - atoum methods inconsistency
  - glibc 2.21.90 breaks Horde_Util
  - regression in php-phpunit-PHPUnit-MockObjects 2.3.2
  - git 2.4 breaks php-gitter
  - rrdtool 1.5.x breaks php-pecl-rrd
  - libxml 2.9.2 breaks atoum
  - ...

# Questions?



Contact:
remi@php.net