FROM 4 RELEASES PER YEAR TO 4 RELEASES PER DAY

FREDERIC DEWINNE

- CTO & Co-Founder of continuousphp©
- 15+ SysAdmin/PHP consultant background
- PHP Certified Engineer
- Continuous Delivery/Deployment Evangelist

- @fdewinne
- https://www.drupal.org/u/fdewinne

PIETER FRENSSEN

- Drupal engineer at ONE Agency
- Consulting for European Commission
- Specialized in testing and automation

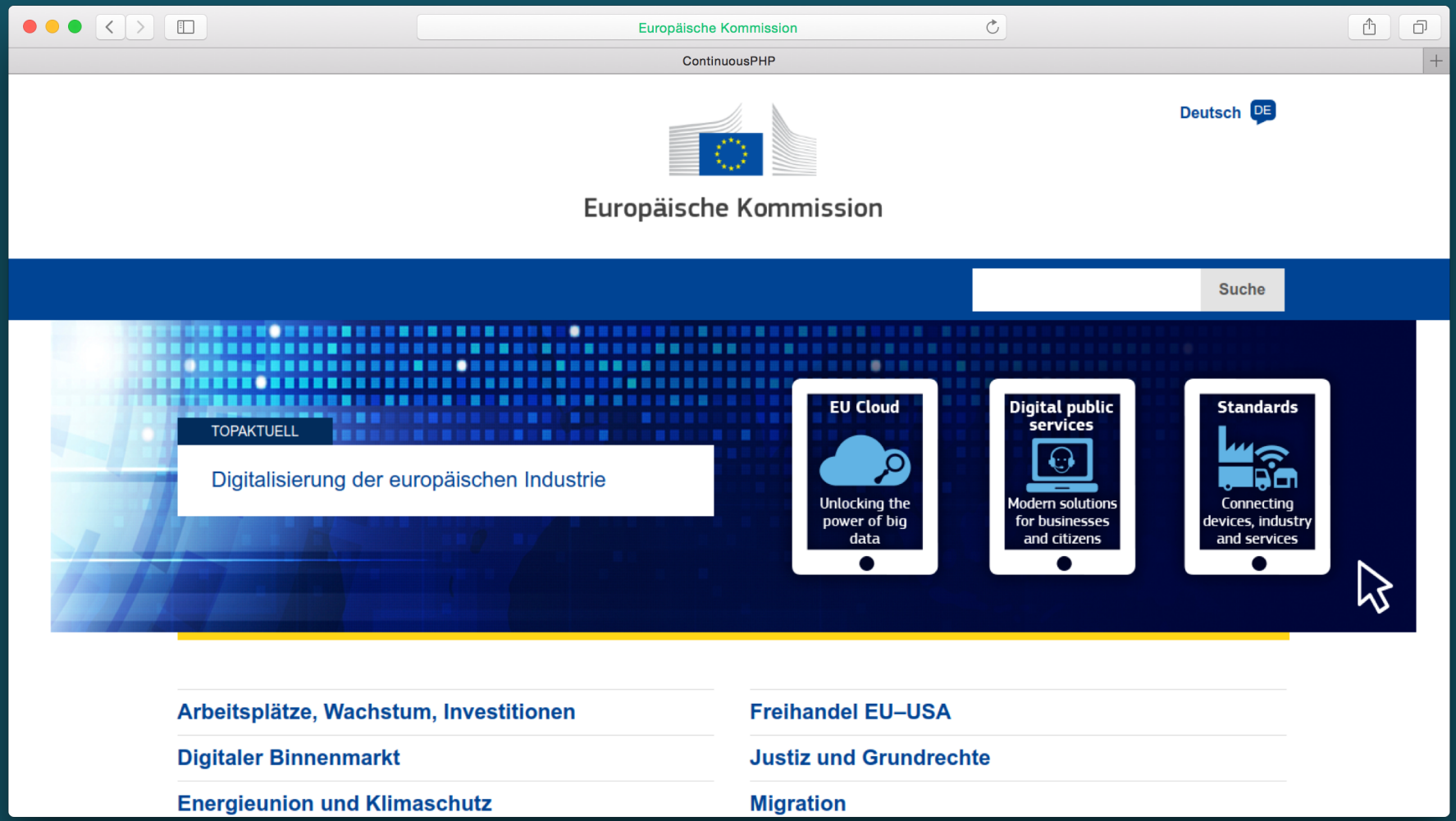
- @pfrenssen
- https://www.drupal.org/u/pfrenssen

BACKGROUND

- European Commission
- Hundreds of websites, many in static HTML
- Millions of pages, total is unknown
- Myriad of different technologies
- Single portal: http://ec.europa.eu

EUROPEAN COMMISSION

http://ec.europa.eu/

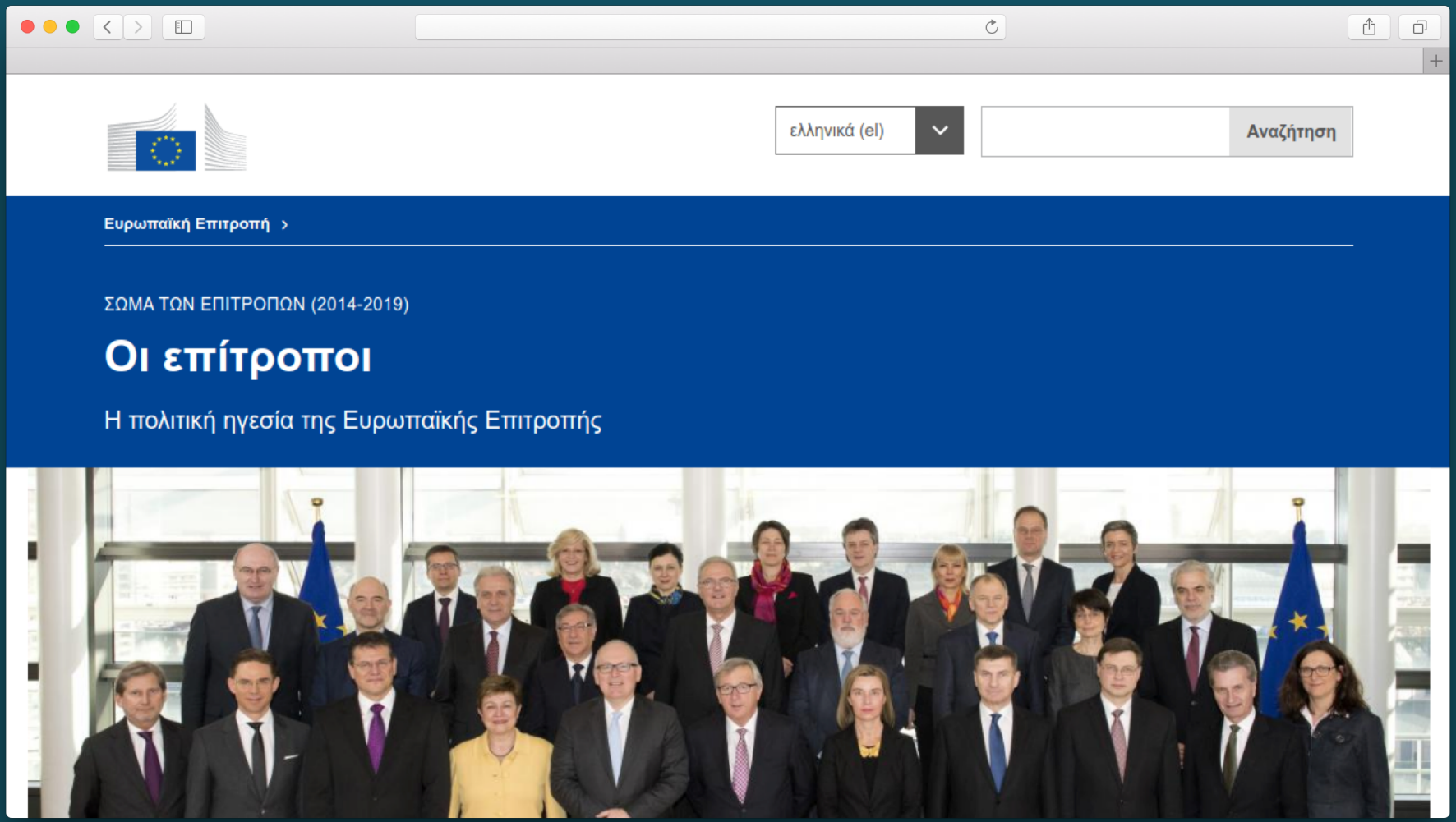


HORIZON 2020

https://ec.europa.eu/programmes/horizon2020/

THE COMMISSIONERS

https://ec.europa.eu/commission/2014-2019_en



EUROPEAN YOUTH PORTAL

https://europa.eu/youth/splash

TARGET AUDIENCE

- 500 million people
- 28 countries
- 24 languages

WHY DRUPAL?

- Single technology serving all needs
- Cost efficient
- Powerful content management + data modeling
- Proven track record
- Flexible
- Stable, secure
- Scalable
- Large community
- No vendor lock-in
- Open source

NEXTEUROPA PLATFORM

- Drupal 7 distribution
- Base framework + optional features
- Multisite installation
- Drush make
- Best practices
- Development started 2012
- https://github.com/ec-europa/platform-dev

RISING CHALLENGES

Anno 2014

- Growing too fast
- Distributed teams
- Outdated practices
- Bottlenecks
- Regressions

GROWING TOO FAST

- 100 websites, 100 more planned
- 200+ developers
- 1000+ content editors
- 250 modules

DISTRIBUTED TEAMS

- Contractors in many countries
- Working in different ways
- Different operating systems
- Infrastructure behind DMZ

OUTDATED PRACTICES

- SVN
- Bash scripts
- Shared development server
- Quarterly release cycle

BOTTLENECKS

- Manual code review
- Manual deployment
- Manual updating every 3 months

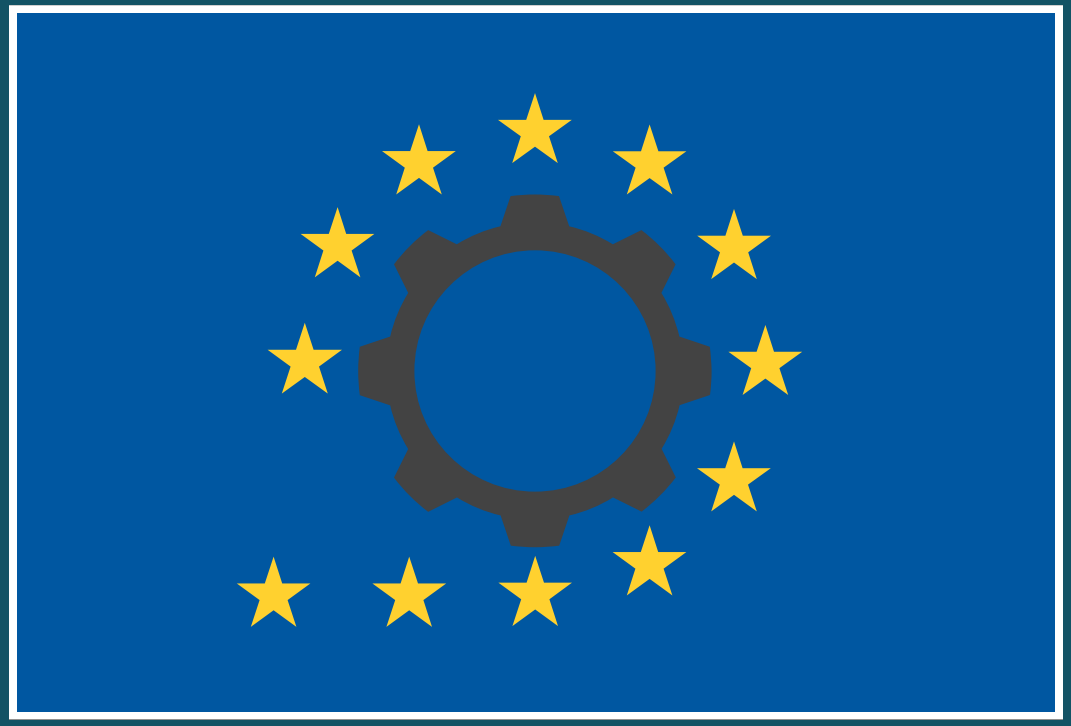
REGRESSIONS

- High rate of code change
- No systematic automated testing

GOALS

- Reduce bottlenecks by automation
- Speed up the release cycle
- Adopt current best practices
- Universal build system
- External access
- Automated testing + QA

MOVE TO INDUSTRIALIZATION



DEFINE A TOOLSET


9/10

MOVING TO GIT

https://github.com/ec-europa

- Move to Github
- Git Flow
- Convert from SVN
- Clean up history
- Training and support

DEPENDENCY MANAGEMENT WITH COMPOSER

- Dependency Manager for PHP
- Focused on library dependencies
- Define PHP version and extension requirements
- https://getcomposer.org

```
{
  "require": {
    "php": ">=5.4.0",
    "drupal/coder": "dev-8.x-2.x",
    "drupal/drupal-extension": "~3.1.5",
    "phing/phing": "~2.10",
    "drupal/phing-drush-task": "1.0",
    "continuousphp/phing-tasks": "~0.1.3"
  },
  "autoload": {
    "psr-4": {
      "Drupal\\nexteuropa\\": "tests/src",
      "NextEuropa\\": "src"
    }
  }
}
```

MANAGING TASKS WITH PHING

- PHing Is Not GNU make
- PHP Project build tool
- based on Apache Ant
- written in PHP; easily extensible by PHP developers
- define sequences of tasks
- organized in targets
- easily drives Drush using additional tasks
  https://www.drupal.org/project/phingdrushtask

```
<project name="My subsite" default="help">

    <target name="help" description="Phing target list">
        <exec executable="${phing.bin}"
              passthru="true">
            <arg value="-l"/>
        </exec>
    </target>

    <target name="generate-development-makefile"
            description="Generate the makefile for development module
        <drushmakefile
            makeFile="${subsite.temporary.development.make}"
            coreVersion="${drupal.core.version}"
            projects="${development.modules.download}"
            defaultProjectDir="${development.modules.location}"
```

CHECKING CODING RULES WITH PHPCODESNIFFER

- Custom ruleset
- Configuration generated with Phing
- Automated check on push

```
$ ./vendor/bin/phpcs
```

AUTOMATING TESTS WITH BEHAT

- inspired by Cucumber
- uses Gherkin syntax to define specs
- supports several web browser drivers through extensions

```
Feature: User authentication
  In order to protect the integrity of the website
  As a product owner
  I want to make sure only authenticated users
  can access the site administration

Scenario: Anonymous user can see the user login page
  Given I am not logged in
  When I visit "user"
  Then I should see the text "ECAS Login"
  And I should see the text "Request new password"
  And I should see the text "Username"
  And I should see the text "Password"
  But I should not see the text "Log out"
  And I should not see the text "My account"
```

PACKING SYSTEM IMAGES WITH PACKER

- immutable infrastructure approach
- virtualization abstraction layer
- versioned configuration

```
{
  "variables": {
    "site_type": "",
    "mysql_password": ""
  },
  "builders": [{
    "type": "amazon-ebs",
    "source_ami": "ami-********",
    "ami_name": "{{user `site_type`}}-dev {{timestamp}}",
    "iam_instance_profile" : "acceptance"
  }],
  "provisioners":[ {
    "type": "salt-masterless",
    "local_state_tree": "salt"
  }]
}
```

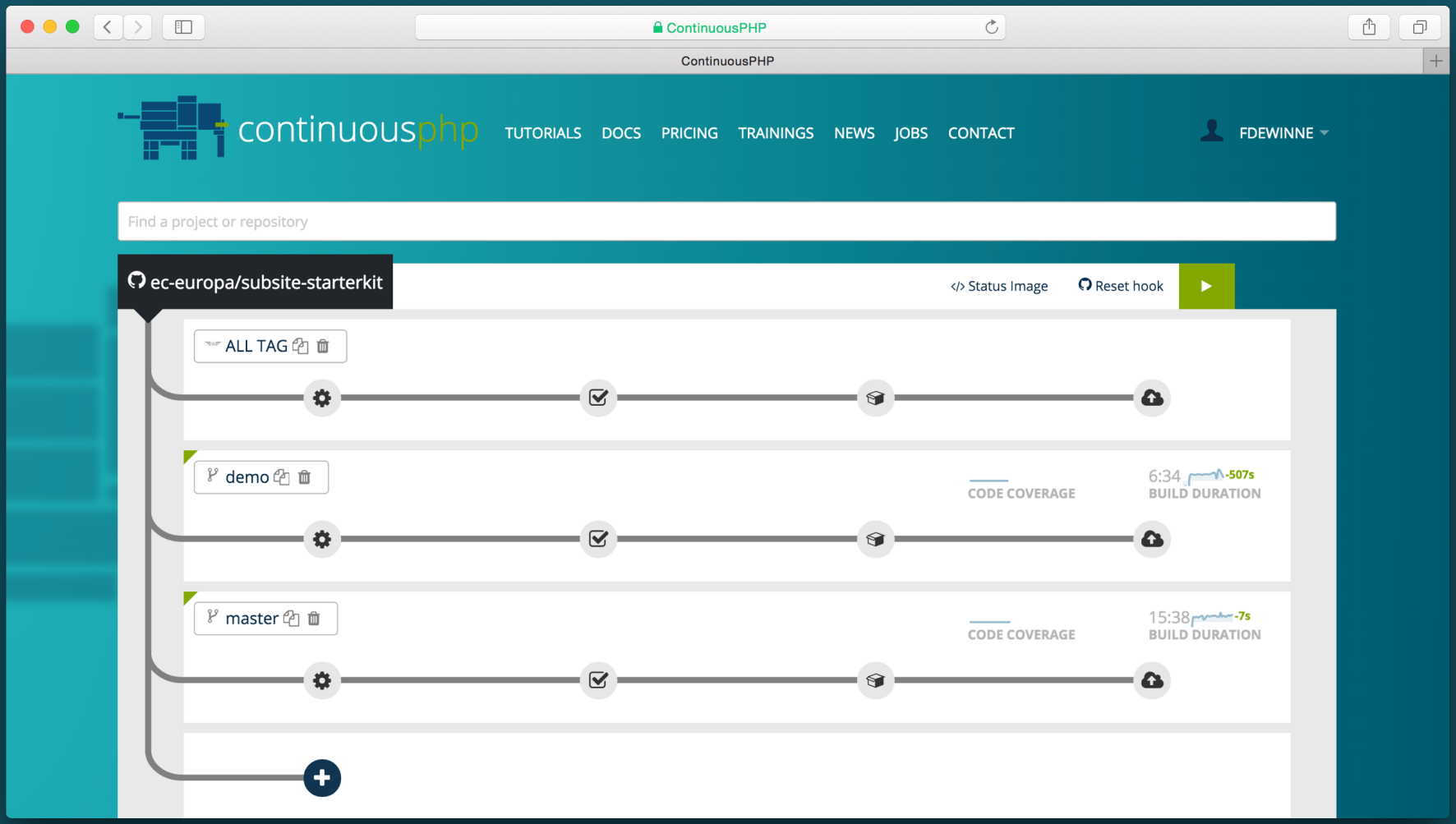
CREATING ON-DEMAND ENVIRONMENT WITH AWS

- coded infrastructure
- infrastructure as a dependency
- new environments deployed in a few minutes
- pay per use

```
[aws-cf-runstack] 2016-03-17T14:38:03+00:00: AWS::CloudFormation::Sta
[aws-cf-runstack] 2016-03-17T14:38:25+00:00: AWS::EC2::SecurityGroup
[aws-cf-runstack] 2016-03-17T14:38:25+00:00: AWS::EC2::EIP (CREATE_C
[aws-cf-runstack] 2016-03-17T14:39:02+00:00: AWS::Route53::RecordSetG
[aws-cf-runstack] 2016-03-17T14:39:20+00:00: AWS::IAM::Role (CREATE_C
[aws-cf-runstack] 2016-03-17T14:39:24+00:00: AWS::IAM::Policy (CREATE
[aws-cf-runstack] 2016-03-17T14:41:24+00:00: AWS::IAM::InstanceProfil
[aws-cf-runstack] 2016-03-17T14:42:20+00:00: AWS::EC2::Instance (CREA
[aws-cf-runstack]
WebServerIP: 52.19.236.43
WebServerURL: http://demo.subsite-starterkit.ec-europa.continuous.lu/
```

ORCHESTRATING DELIVERY PIPELINES WITH CONTINUOUSPHP

- no vendor lock-in
- not limited by worker model
- possibility to run tests in parallel
- specialized in php
- simplify our delivery workflow


ContinuousPHP
ContinuousPHP
continuousphp
TUTORIALS
DOCS
PRICING
TRAININGS
NEWS
JOBS
CONTACT
FDEWINNE
Find a project or repository
ec-europa/subsite-starterkit
Status Image
Reset hook
ALL TAG
demo
CODE COVERAGE
6:34
-507s
BUILD DURATION
master
CODE COVERAGE
15:38
-7s
BUILD DURATION

SKELETON

https://github.com/ec-europa/subsite-starterkit

- Common starting point for all sites
- Project configuration
- Build system: Phing
- Development tools: PHPCS, Composer, Behat
- Continuous Integration support
- Good documentation

ADOPT A PRACTICE

CONTINUOUS INTEGRATION

- continuously merging developer branches into a common one
- part of ***extreme programming*** practice
- build and test every commit to prevent integration issues
- deploy every build on an integration server

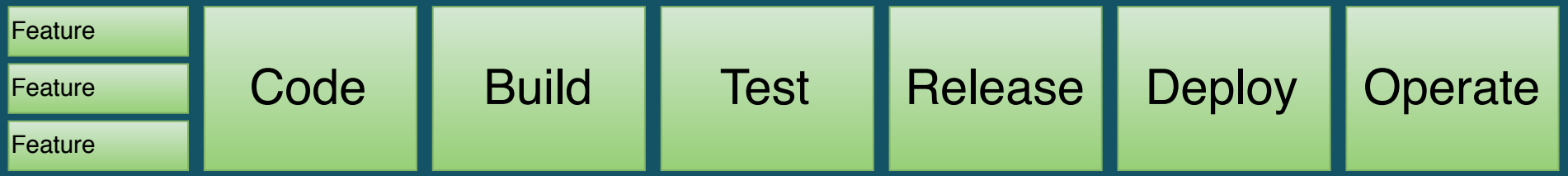
CONTINUOUS DELIVERY

- ***Continuous Integration*** is a part of CD
- Code is ***packaged*** by a build server every time a change is ***committed***
- any ***code commit*** may be ***released*** to customers at any point
- implements ***Scrum*** Project Management

CONTINUOUS DEPLOYMENT

- *Continuous Delivery* is a part of *Continuous Deployment*
- every successful build is deployed to a *Production Environment*
- any completed, working feature is delivered to production as soon as possible
- implements *Kanban* Process Management

CONTINUOUS COMPARISON



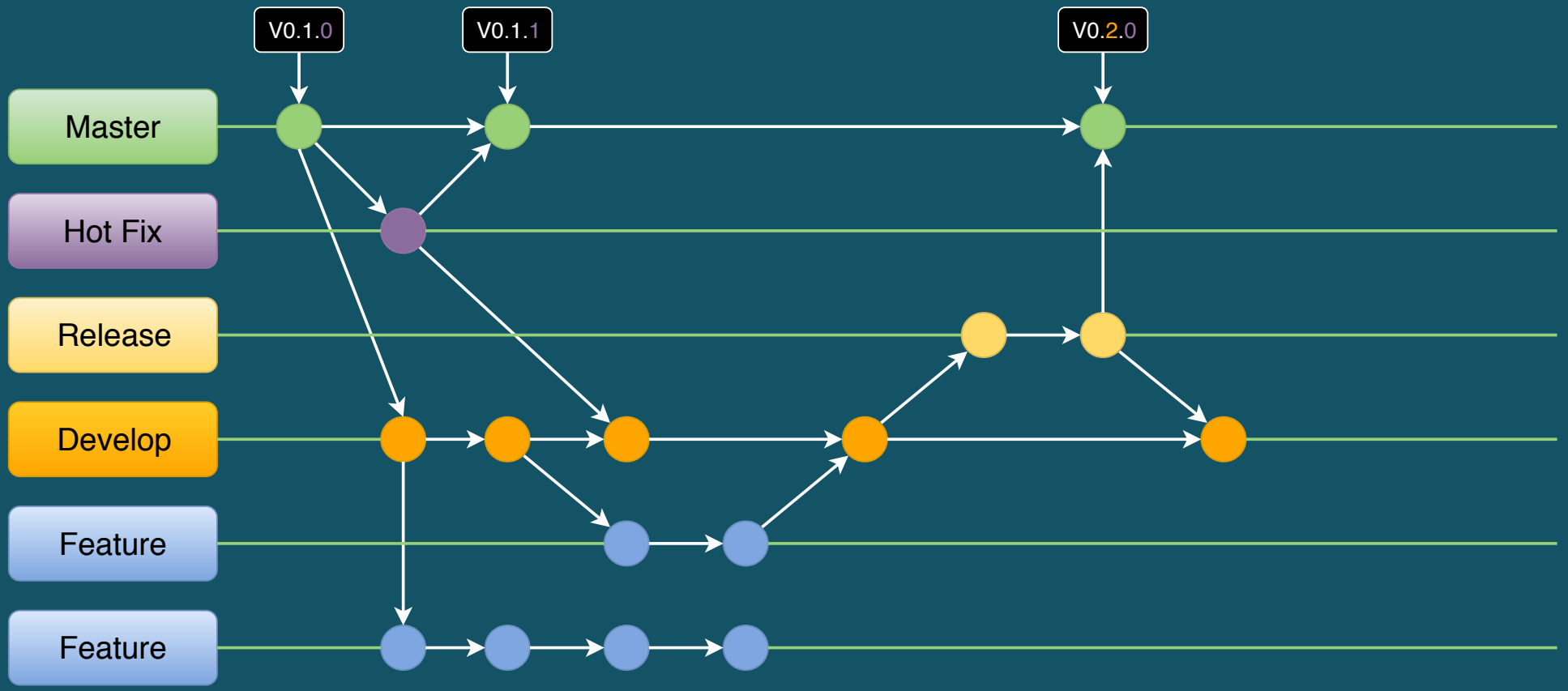
Agile Development

Continuous Integration

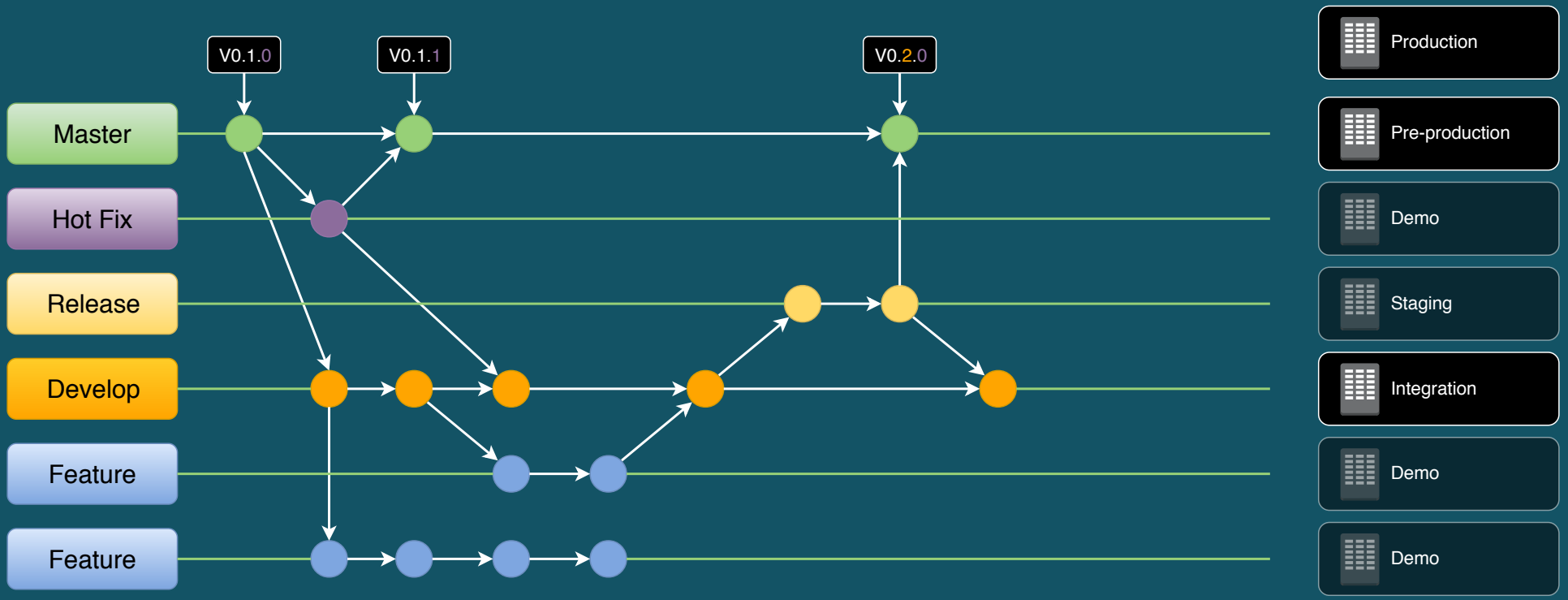
Continuous Delivery

Continuous Deployment

BRANCHING MODEL



ENVIRONMENT MANAGEMENT



ACHIEVEMENTS

- Drastically decreased the time to market
- Multiple releases per day
- Overall software quality improved
- Bottlenecks have decreased
- Online & inline code review
- Improved test coverage catches regressions
- Easy "one-step" building and installing of any site
- User acceptance testing on ephemeral environments
- Early detection of common problems

THANK YOU

QUESTIONS?

Slides: http://slideshare.net/continuousphp/from-4-releases-per-year-to-4-releases-per-day-61474837

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- https://twitter.com/pfrenssen