

From Dev To Production

Sam Newman
QCon London 2010

ThoughtWorks®





Group by: Status Sort by: Priority Color by: Priority Lane headings: Sum Estimate

Rank cards [Link to this](#)

Ready for Development (8)	In Development (10)	Ready for Testing (6)	In Testing (4)	Ready for Signoff (0)	Accepted (18)
<ul style="list-style-type: none"> Subscribe #86 to RSS feed Merge #85 contacts Export my #84 contacts to iCal 	<ul style="list-style-type: none"> View list #53 of mails View new #51 mails differently so that I can easily scan User #3 Session Timeout Export my #83 contacts to excel 	<ul style="list-style-type: none"> Navigate #52 to and read e-mail 	<ul style="list-style-type: none"> Save e- #47 mail addresses in an online address book View #46 confirmation that e-mail was sent Add e- #39 mail addresses to addressbook from received 		<ul style="list-style-type: none"> Pagination #50 through mails in folder to view more than 25 mails Compose #49 and save (as a draft) a new mail Send mail #48

Overview My Work Planning Project Backlog **Sprint Backlog** Task Board By Status All History

Group by: Status Sort by: Priority Color by: Priority Lane headings: Sum Estimate

Rank cards Link to this

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Subscribe #86 to RSS feed	View list #53 of mails	Navigate #52 to and read e-mail	Save e- #47 mail addresses in an online address book		Pagination #50 through mails in folder to view more than 25 mails
Merge #85 contacts	View new #51 mails differently so that I can easily scan		View #46 confirmation that e-mail was sent		Compose #49 and save (as a draft) a new mail
Export my #84 contacts to iCal	User #3 Session Timeout		Add e- #39 mail addresses to addressbook from received		Send mail #48

shop,

Bookstore

- remove items from cart

Runs: 1/1 - Error: 0 - Fail: 0

- add items to cart

Debug your tests easily with real-time results.

Workflow Rules Table Bold Italic H

Tags: shopping cart Add

Context: Login as user Add

Add items to cart

Add items to cart

As a user, I should be able to add items to shopping cart

Add Items:

- search books having text "Agatha Christie"
- book

- verify "Five Little Pigs" (book) is added to shop
- add (book) "Five Little Pigs" to shopping cart
- find (book) "Five Little Pigs"
- remove "Five Little Pigs" (book) from the shop

Reuse existing workflows and optimize your test suites with inline content-assist.

Rank cards

Ready for Development (8)

- Subscribe #86 to RSS feed
- Merge #85 contacts
- Export my #84 contacts to iCal

In Development (10)

- View list #53 of mails
- View new #51 mails differently so that I can easily scan
- User #3 Session Timeout

Ready for Testing (6)

- Navigate #52 to and read e-mail

In Testing (4)

- Save e- #47 mail addresses in an online address book
- View #46 confirmation that e-mail
- Add e- #3 mail addresses to addressbook from received

Ready for Signo

Get visibility into your entire deployment workflow.

crucise Enterprise

CURRENT ACTIVITY AGENTS MY CRUCISE ADMINISTRATION

Pipelines > Pipeline Activity

Pipeline Activity in crucise

crucise	dev	dist-zip	uat
1.3.0.3549 revision: e2d86535395b... 6 days ago by HK	✓ auto	✓	manual
1.3.0.3548 revision: 2748637aceb3... 6 days ago by HK	✗ auto		manual
1.3.0.3547 revision: 7d5174a3727a... 6 days ago by WX & LYH	✓ auto	✓	manual ✓ Approved by jez
1.3.0.3546 revision: ff82167a2690... 6 days ago by HK	✓ auto	✓	manual ✓
1.3.0.3545 revision: 452052dff463... 6 days ago by WX & LYH	✓ auto	✓	manual

shop,

Bookstore

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Workflow Rules Table

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Debug your tests easily with real-time results.

Reuse existing workflows and optimize your test suites with inline content-assist.

Automate deployments or trigger push-button deployments.

Development
Workstation

Production



Development
Workstation

Production



Development
Workstation



Production



Building

Building

Configuration

Building

Configuration

Deployment

Automated Testing

Building

Configuration

Deployment

Monitoring

Automated Testing

Building

Configuration

Deployment

Logging

Monitoring

Automated Testing

Building

Configuration

Deployment

Logging Monitoring
Automated Testing

Disasters!

Building Configuration

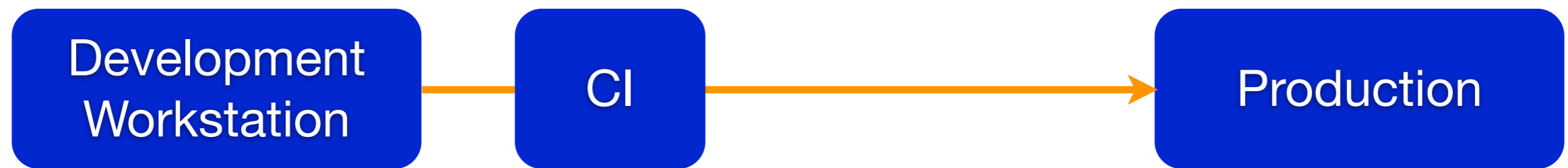
Deployment

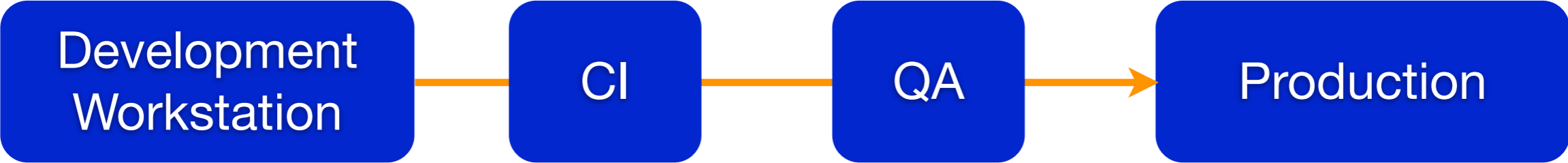
1. Building

Development
Workstation

Production





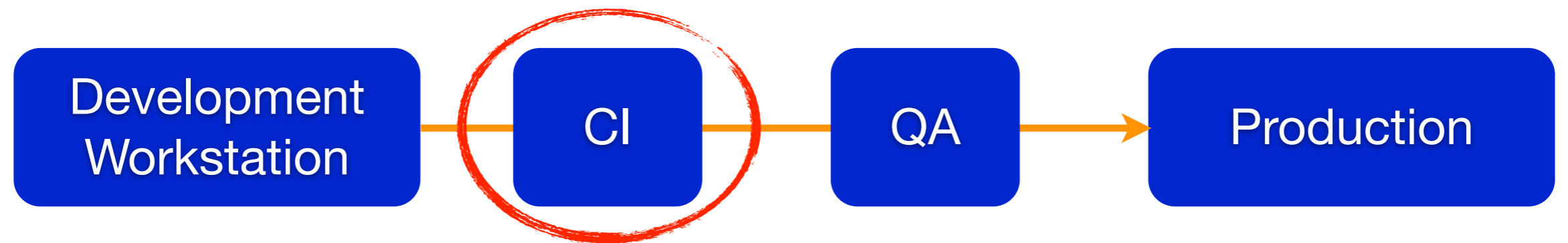


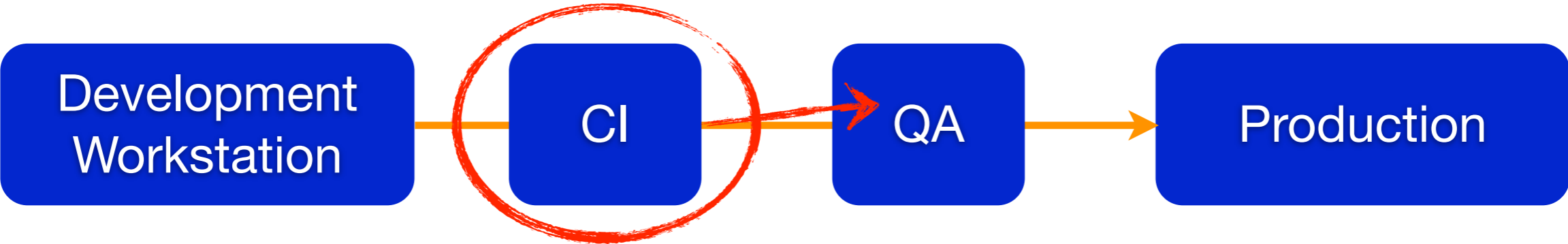
Development Workstation

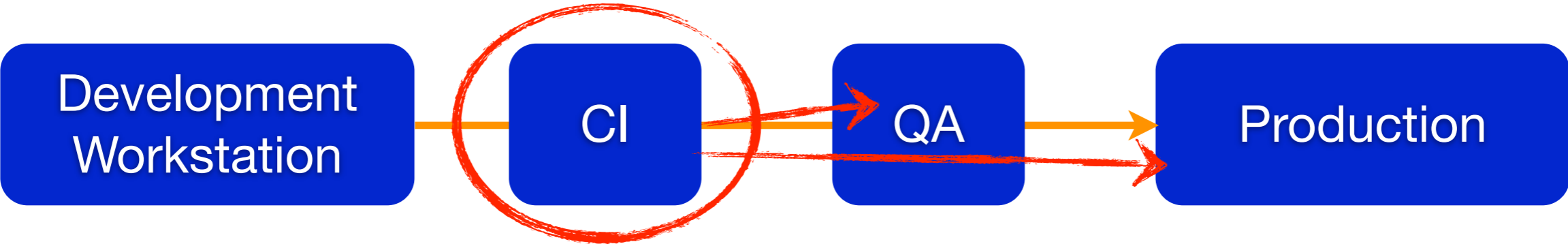
CI

QA

Production

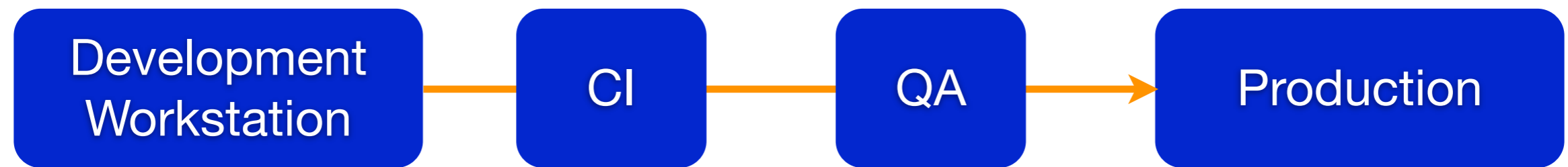


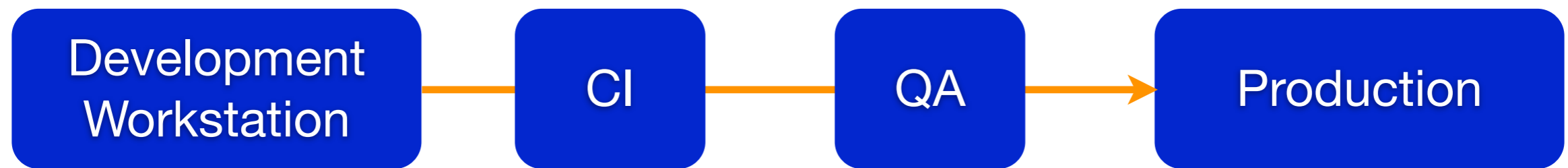


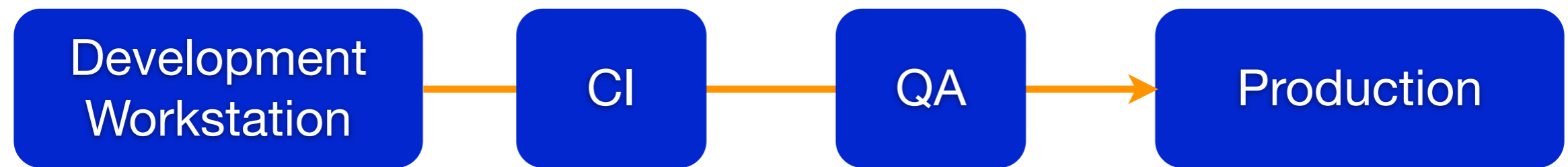


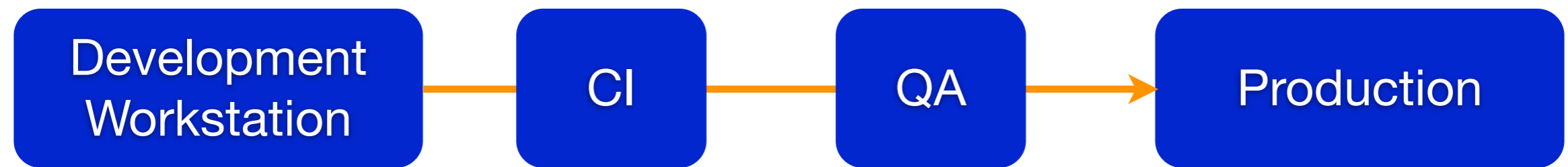


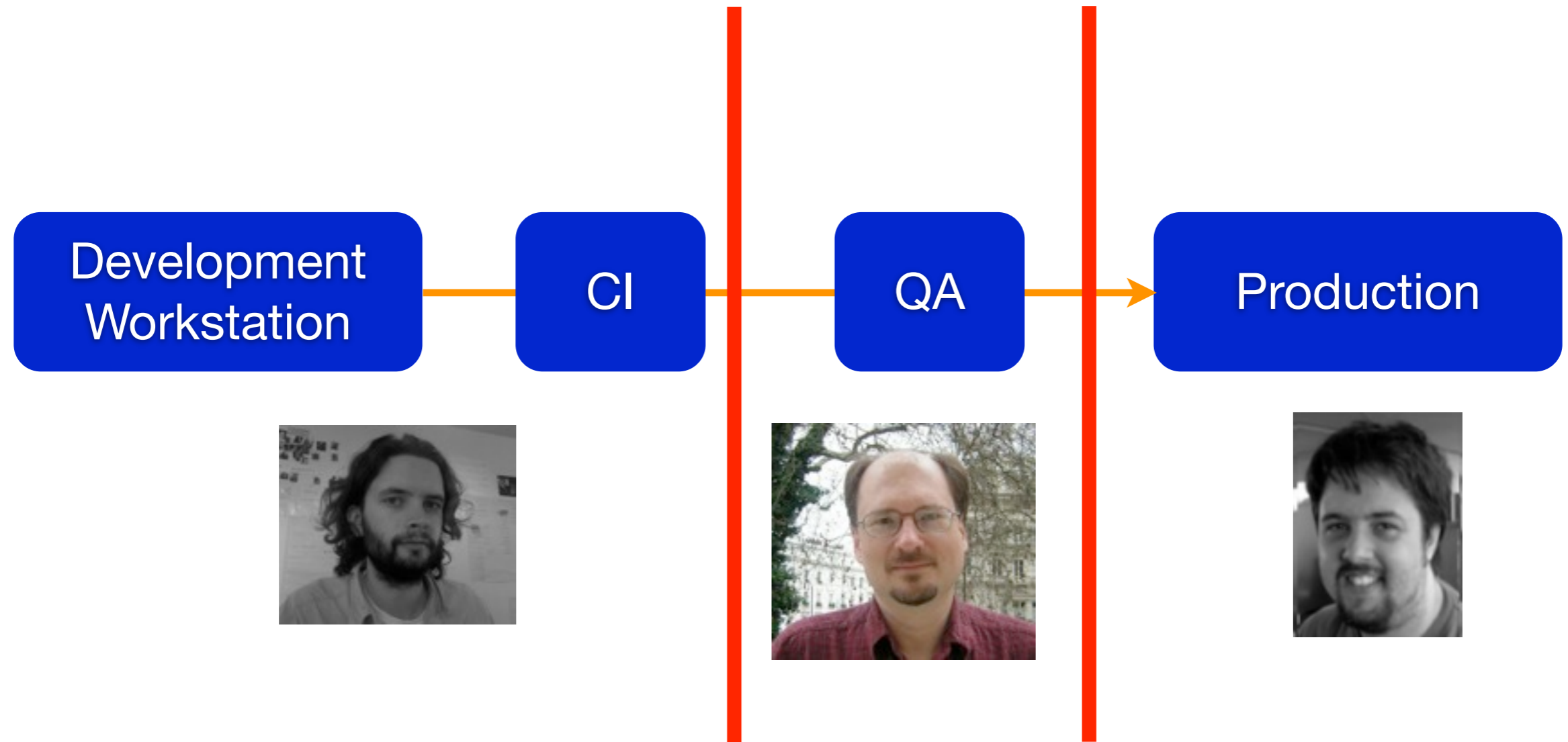
Build Once, Deploy Everywhere

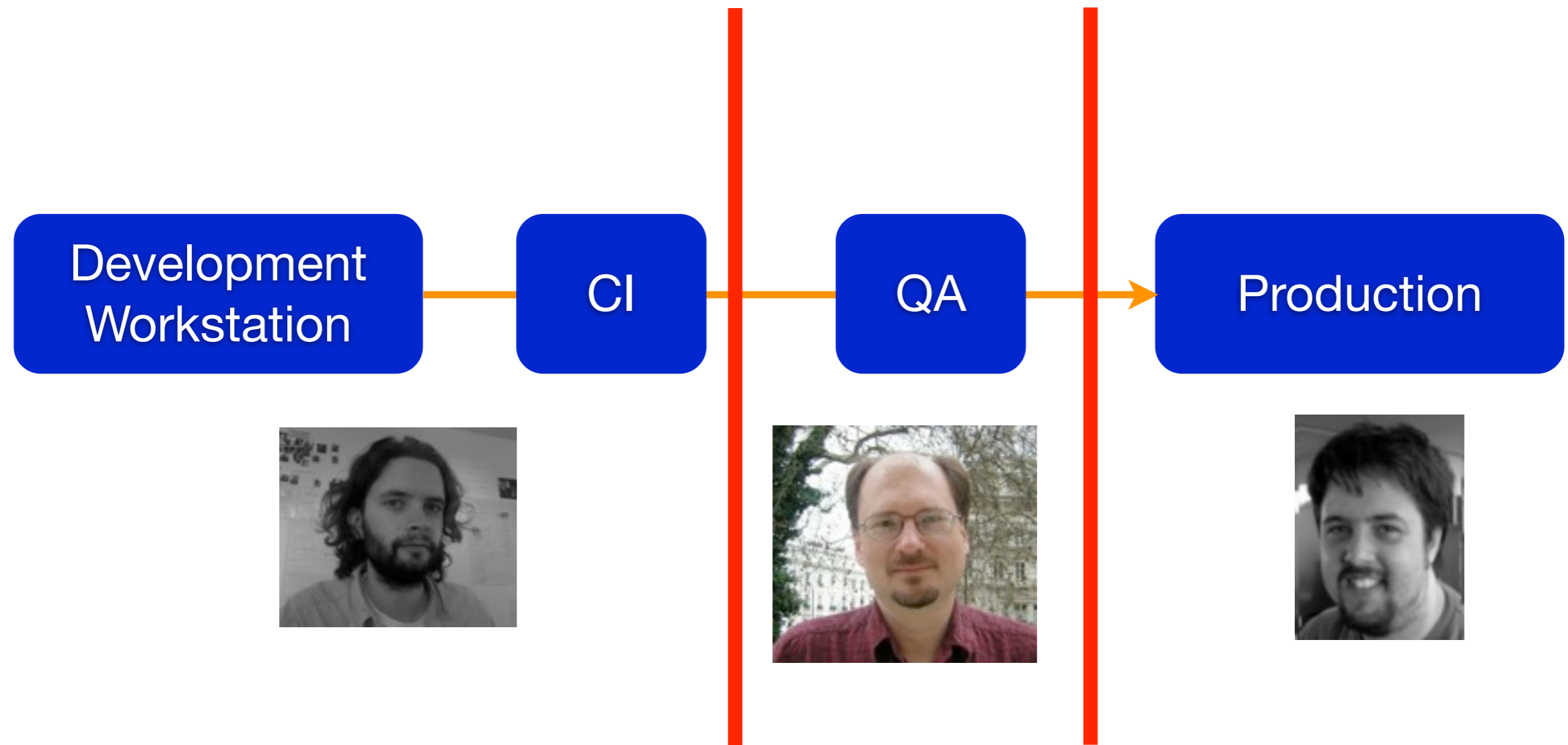












Don't Let Your Build & Deployment Process Become a Series Of Silos

Fixing the
Build

enterprisecorp-2 :: Integration-Tests

**enterprisecorp-2 :: Integration-Tests ::
run-integration-tests**

**enterprisecorp-2 :: Integration-Tests ::
run-integration-twist-scenarios**

enterprisecorp-2 :: Stub-Twist-Tests

enterprisecorp-2 :: Integration-Tests

**enterprisecorp-2 ::
deploy-rpm-and-run-integration-tests**

enterprisecorp-2 :: Integration-Tests :: run-integration-tests

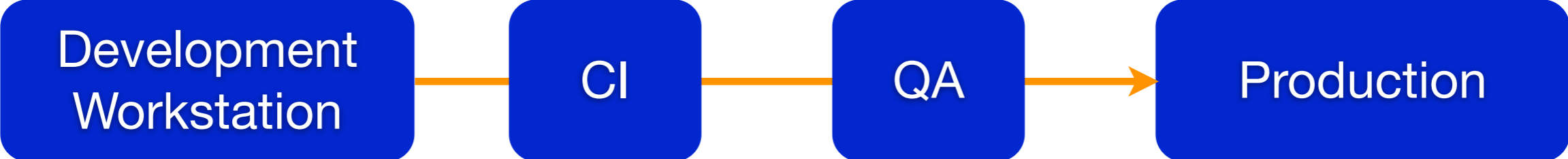
**enterprisecorp-2 ::
deploy-rpm-and-run-integration-twist-scenarios**

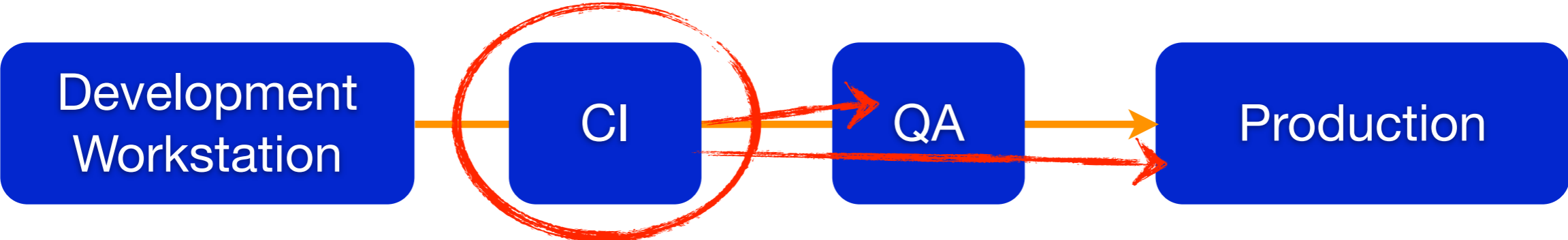
enterprisecorp-2 :: Integration-Tests :: run-integration-twist-scenarios

enterprisecorp-2 :: Stub-Twist-Tests

enterprisecorp-2 :: Stub-Twist-Tests :: deploy-rpm-and-run-twist-scenarios-run1

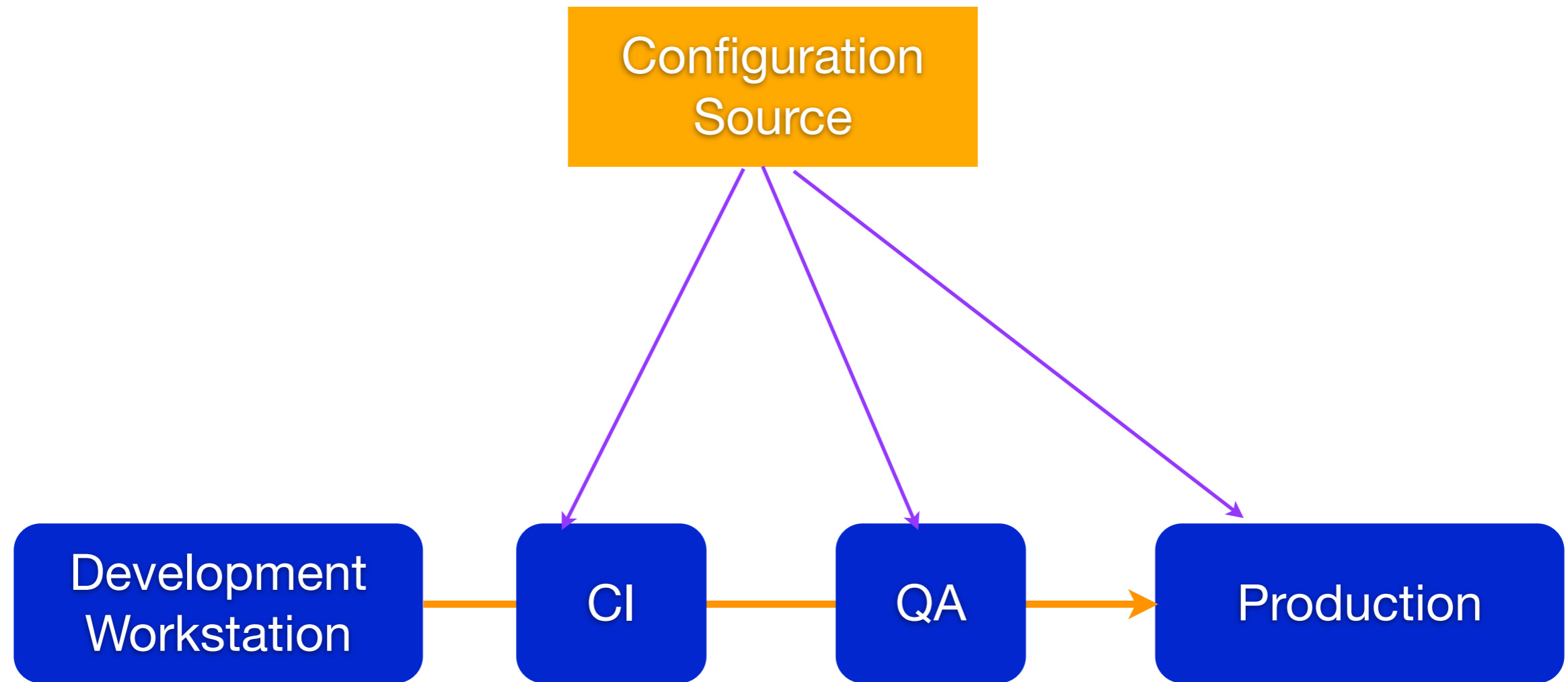
2. Configuration



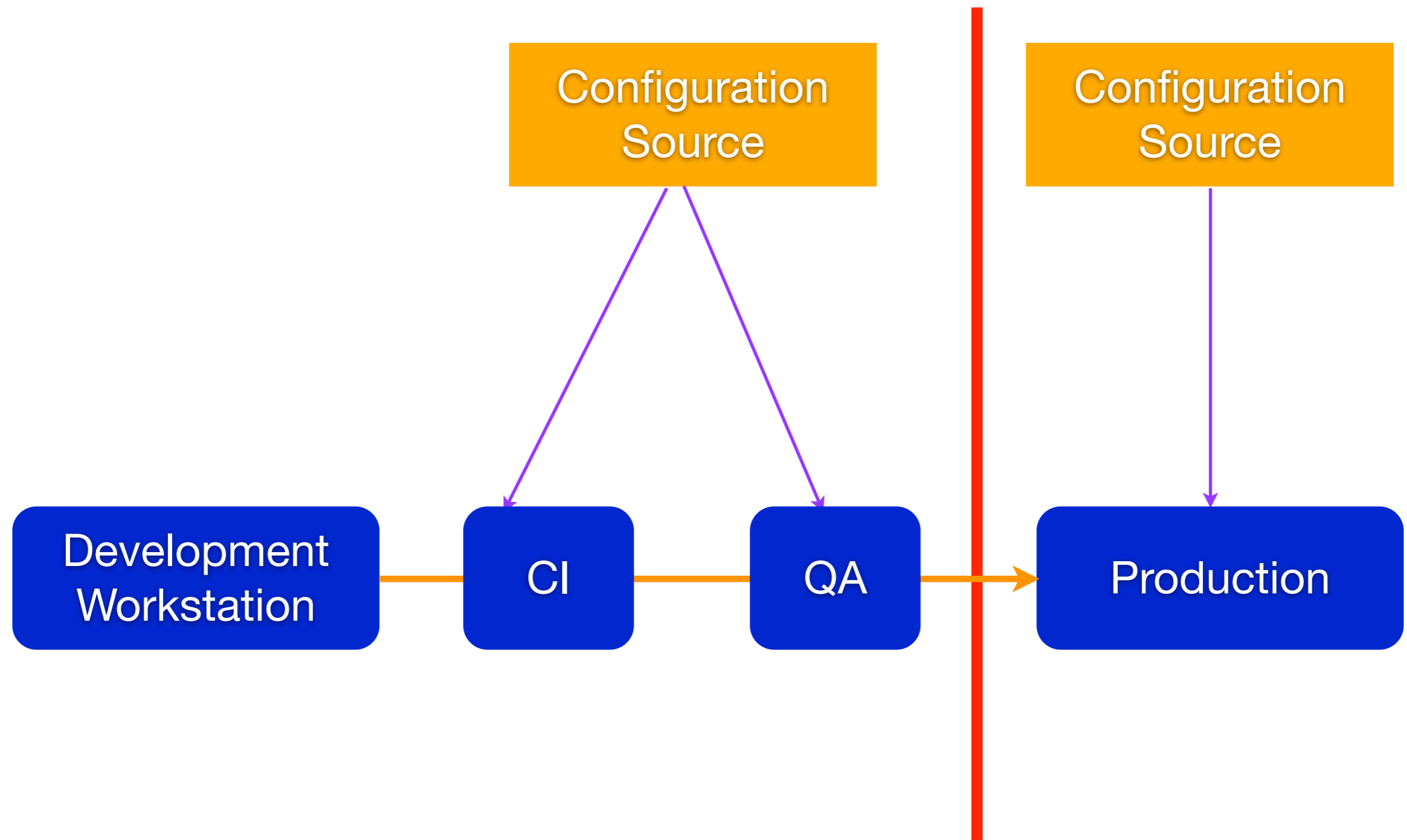




Separate Configuration From Binaries



Separate Configuration From Binaries



Separate Configuration From Binaries

System configuration

image.dir /images	Source: defaulted by: web.xml	Not validated
temporary.upload.directory /tempuploads	Source: defaulted by: web.xml	Not validated
decorators_directory decorators	Source: defaulted by: web.xml	Does not exist
application_version 3.18.492	Source: defaulted by: web.xml	Not validated
build.label 3.18.492	Source: defaulted by: version properties	Not validated
svn.revision [redacted]	Source: defaulted by: version properties	Not validated
build.timestamp 20100208T164046.036	Source: defaulted by: version properties	Not validated

Expose Your Config

System configuration

image.dir
/images

temporary.upload.directory
/tempuploads

decorators_directory
decorators

application_version
3.18.492

build.label
3.18.492

ia.net

Source: overridden by: /usr/local/[REDACTED]-override.properties

Validated at 172.17.0.59

net

Source: overridden by: /usr/local/[REDACTED]-override.properties

Validated at 172.17.0.149

Source: overridden by: /usr/local/[REDACTED]-override.properties

connect timed out

Source: overridden by: /usr/local/[REDACTED]-override.properties

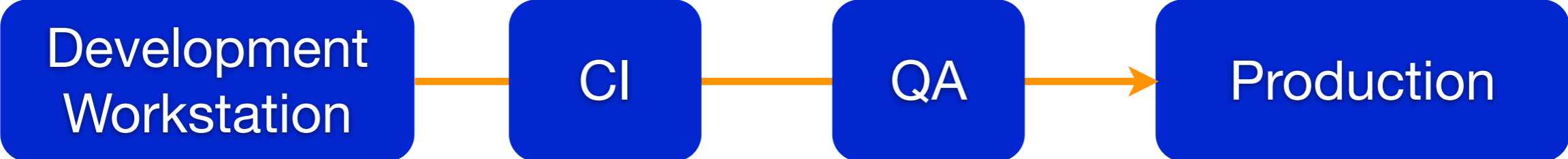
Not validated

Validate Your Config

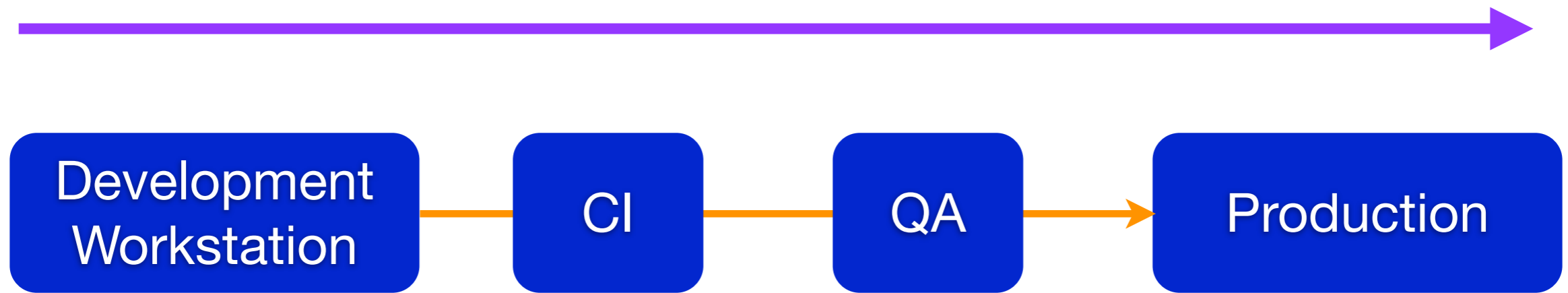
Fail Fast If It's Wrong



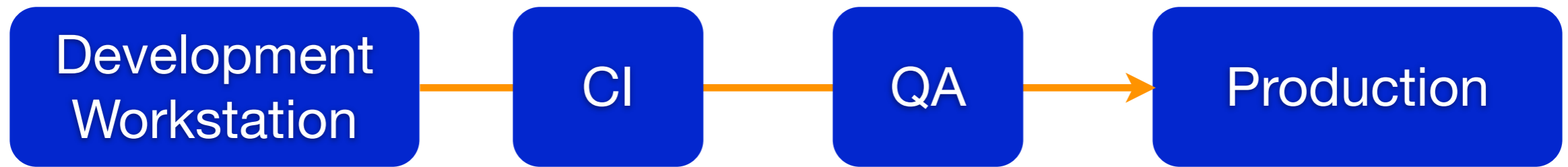
3. Deployment



More Production Like

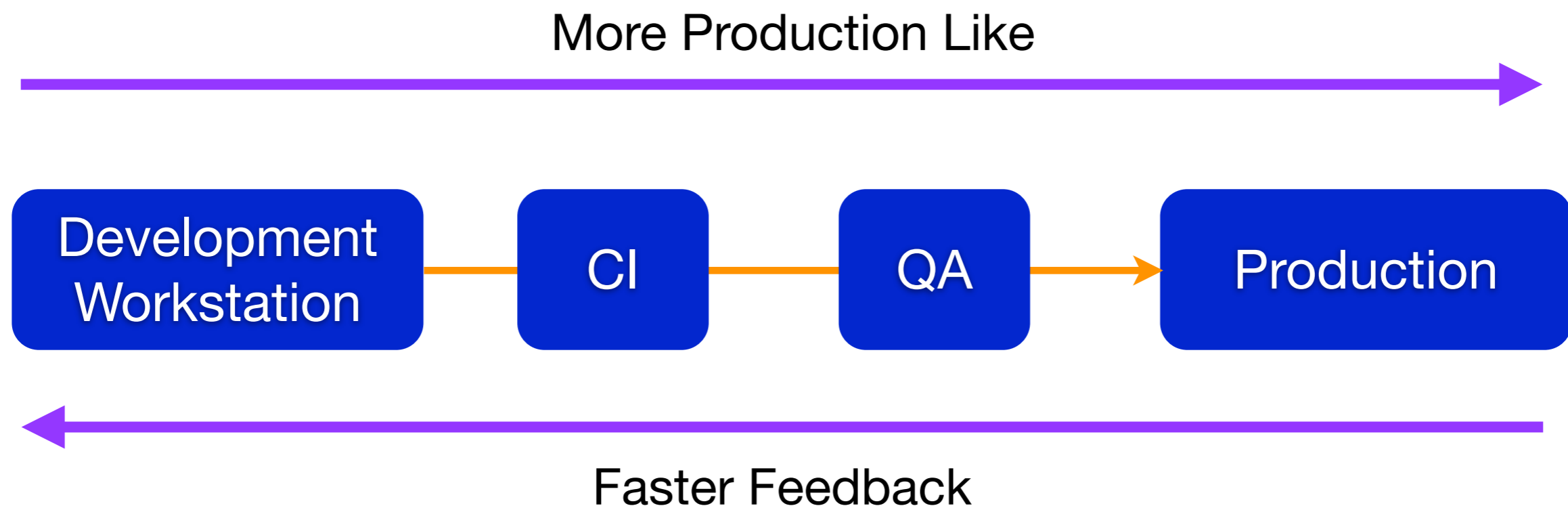


More Production Like

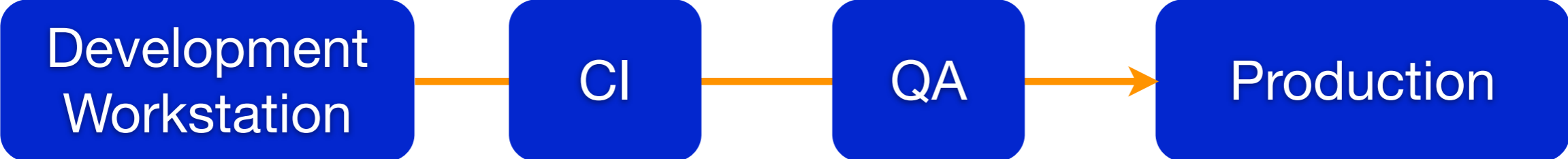


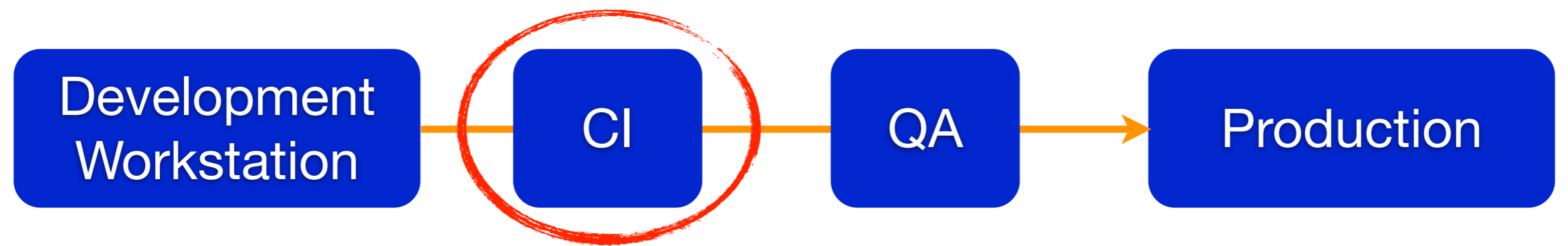
Faster Feedback

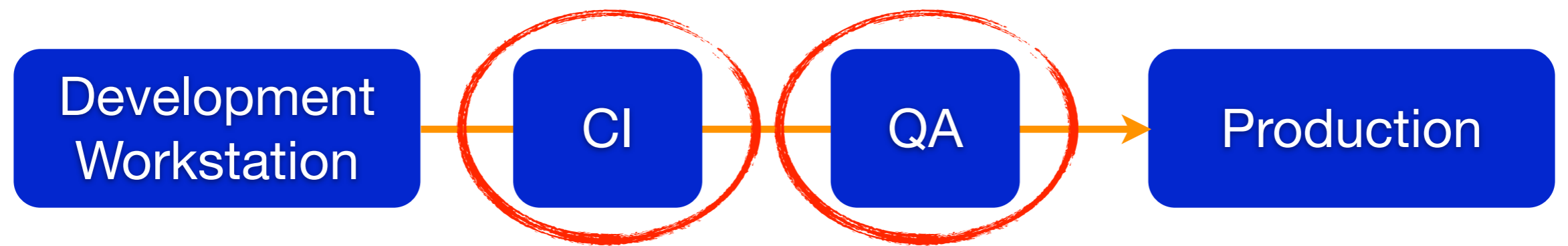


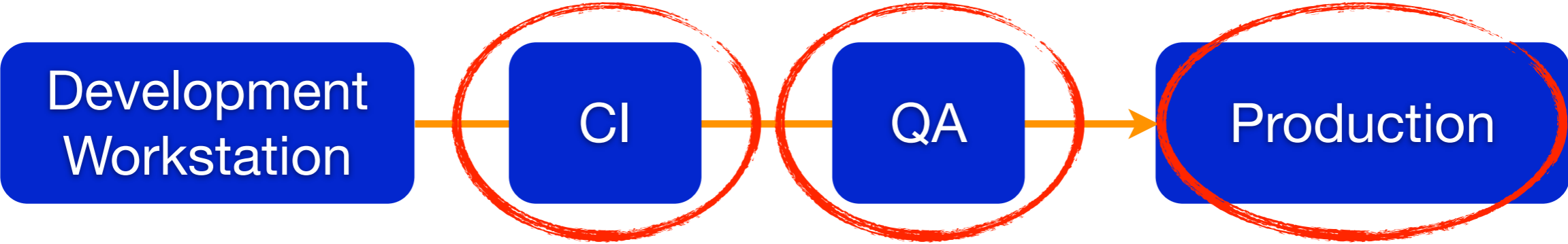


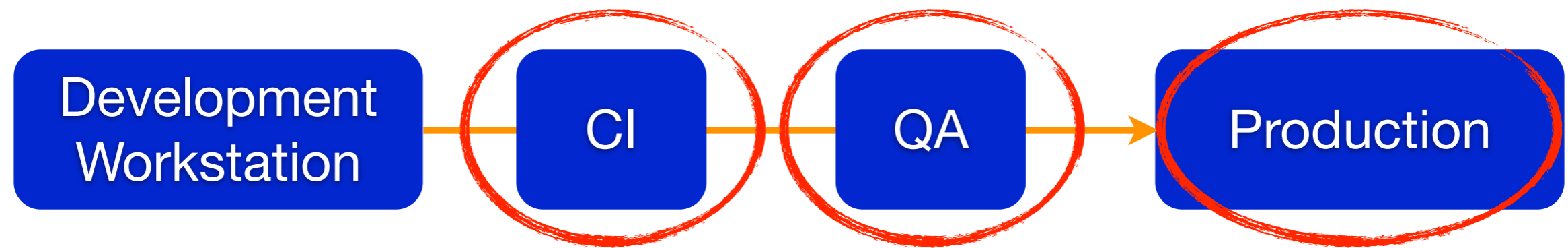
Understand How To Balance Your Environments











Use The Same Deployment
Mechanism Everywhere

4. Automated Testing

Automated Tests Can Help You Go Fast



<http://www.flickr.com/photos/eole/380316678/>



Treat Your Build Like A Safety Net,
Not A Trampoline

5. Monitoring

<http://www.youtube.com/watch?v=7yr7odFUARg>





Work Out What The 3am
Guy Needs To Know

numberOfApplicationErrors

57

numberOfServicedRequestsWithResponse200

136711

numberOfServicedRequestsWithResponse304

27782

numberOfServicedRequestsWithResponse404

303

numberOfServicedRequestsWithResponse500

141

totalNumberOfServicedRequests

172383

Cache Information

Number of objects in cache
50000

Cache miss count
88801

Cache put count
76143

Cache hit count
36176

Host:
www.net

Pool Size:
20

No of Errors:
0

Sick:
false

Override Status:
UNAVAILABLE

[redacted] is on Prod - DC1

LOCALHOST QA - Trunk QA - Branch QA Showcase **Prod - DC1** Prod - DC2 Das

	Application version	Svn revision	Admin mode	Page Impressions	Click Throughs	Seconds Since Last Write To Database	Number Of Application Errors	Number Of Serviced Requests With Response200	Number Of Serviced Requests With Response304	Number Of Serviced Requests With Response404	Number Of Serviced Requests With Response500
	3.18.492	9469	true	0	0	5	0	0	0	0	0
AWOOGA AWOOGA! SERVER DEAD!											
	3.18.492	9469	false	2793	27	4	41	116436	22646	7305	79
	3.18.492	9469	false	2976	36	29	46	123495	23803	7435	92
	3.18.492	9469	false	2665	34	48	34	112881	21504	6642	69
	3.18.492	9469	false	2924	34	15	48	122552	23939	7688	93
	3.18.492	9469	false	2595	28	9	36	112586	21780	7062	81
	3.18.492	9469	false	2849	27	54	36	120924	23229	7322	89
	3.18.492	9469	false	2902	32	42	40	120569	22980	7507	75

Next Previous Highlight all Match case

LOCALHOST

QA - Trunk

QA - Branch

QA

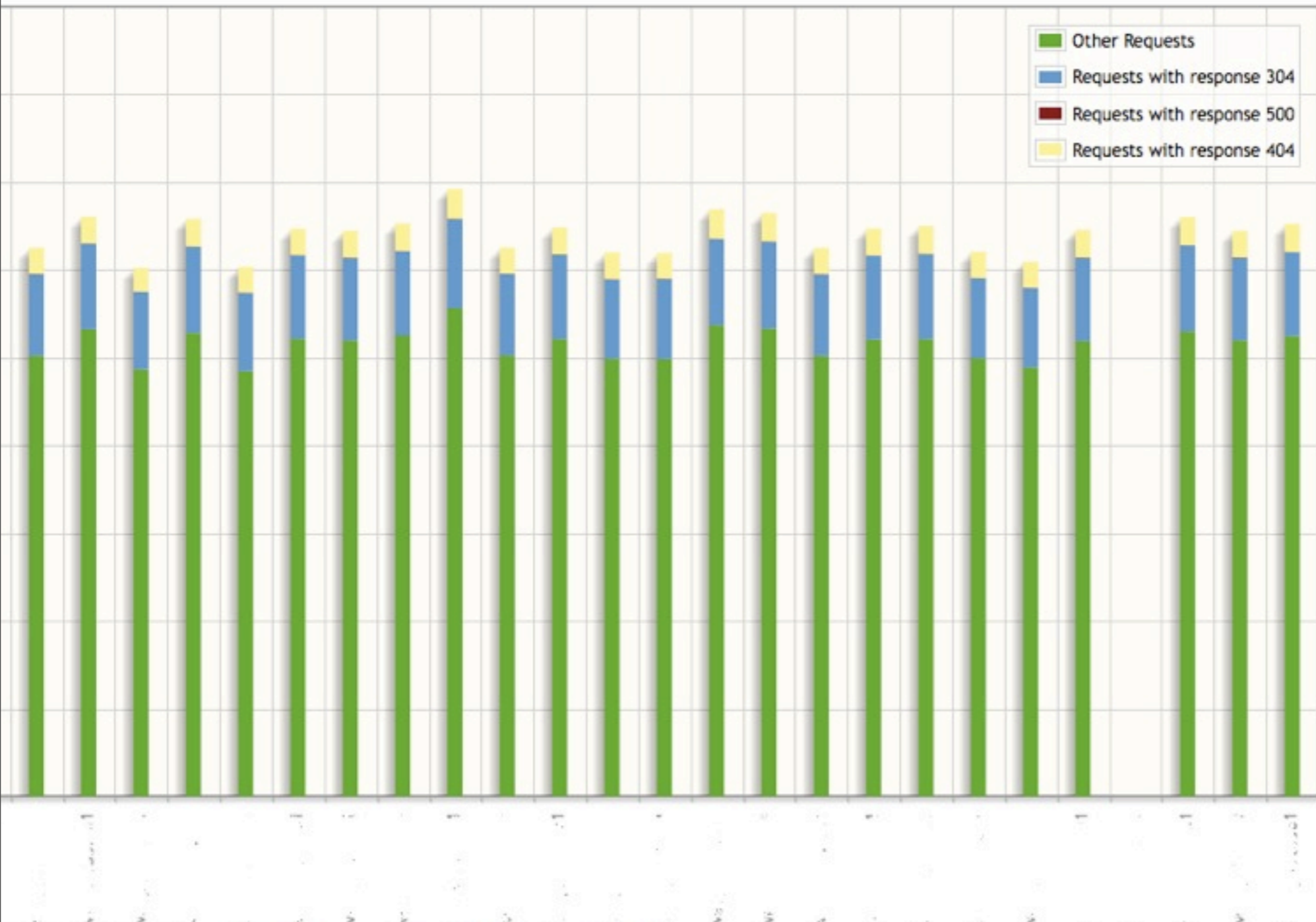
Showcase

Prod - DC1

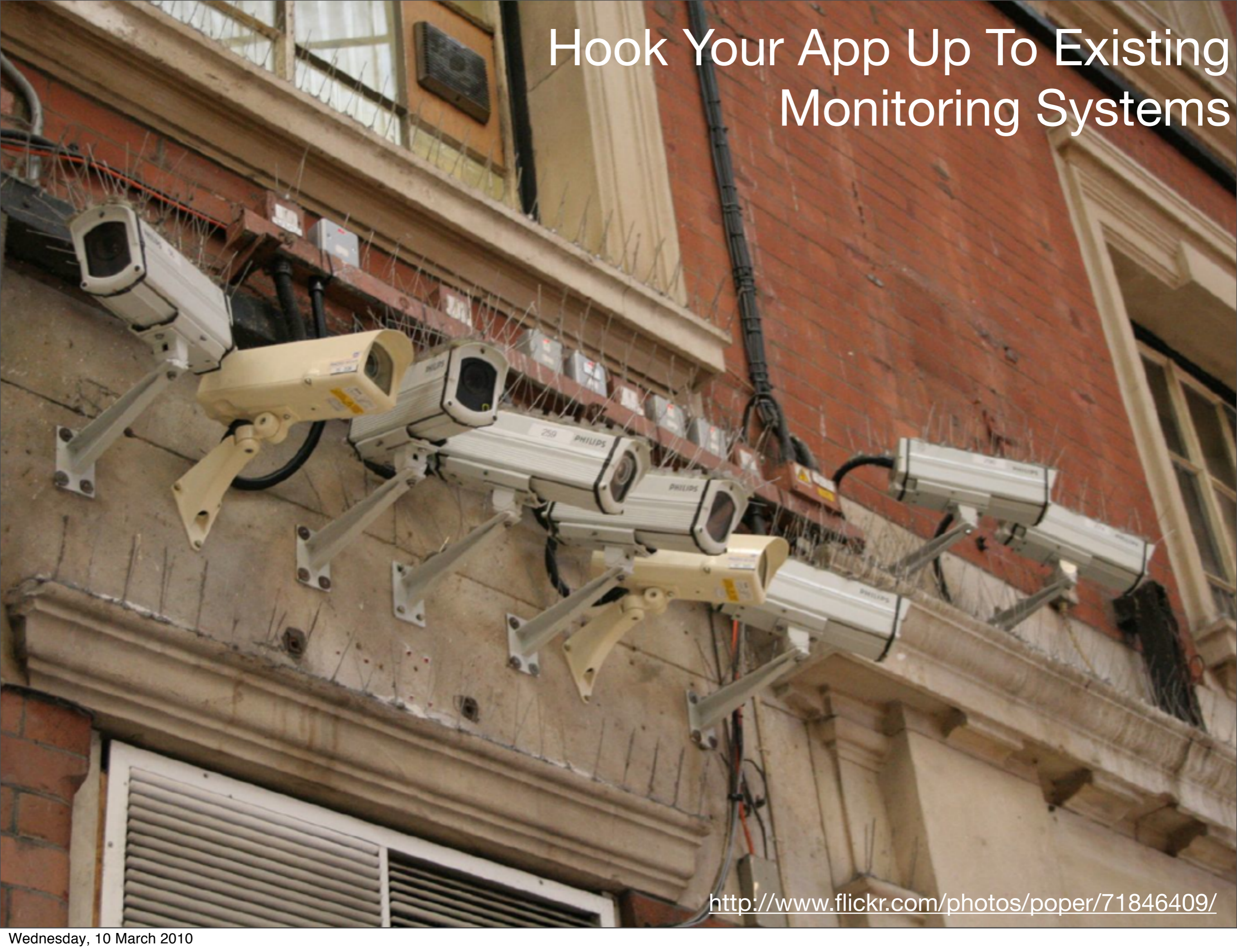
Prod - DC2

Das

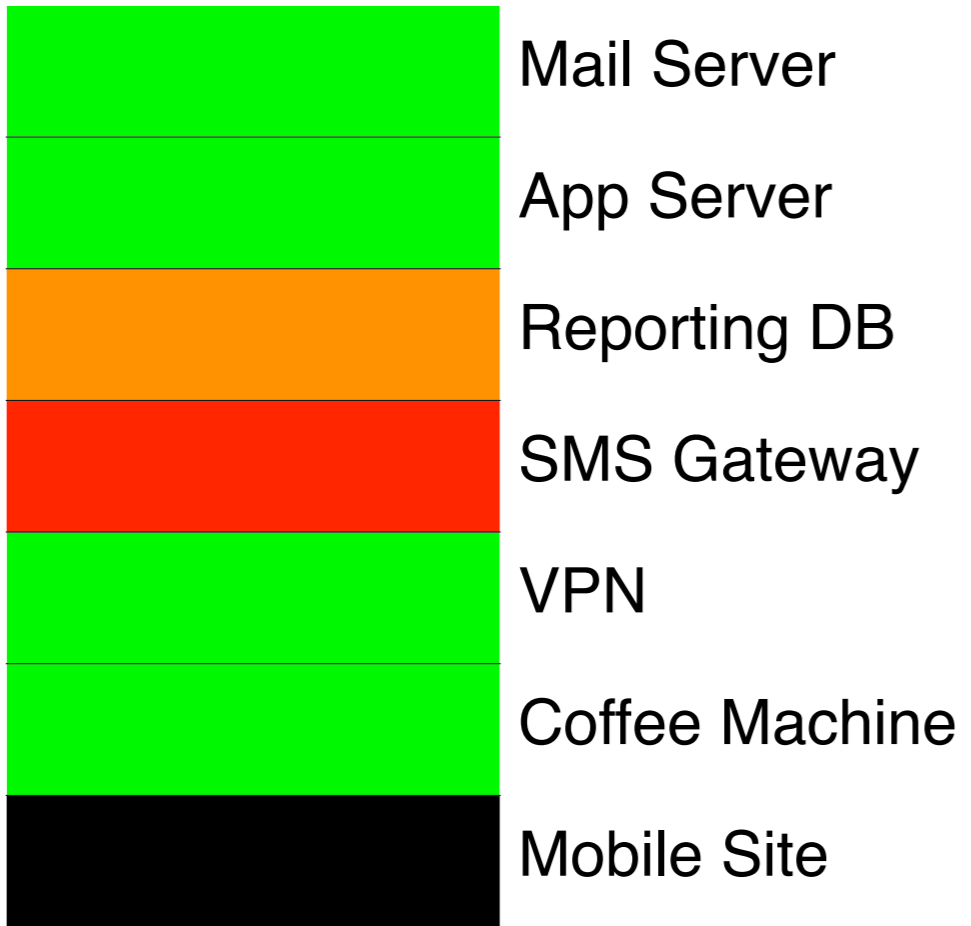
Comparison of responses



Hook Your App Up To Existing Monitoring Systems



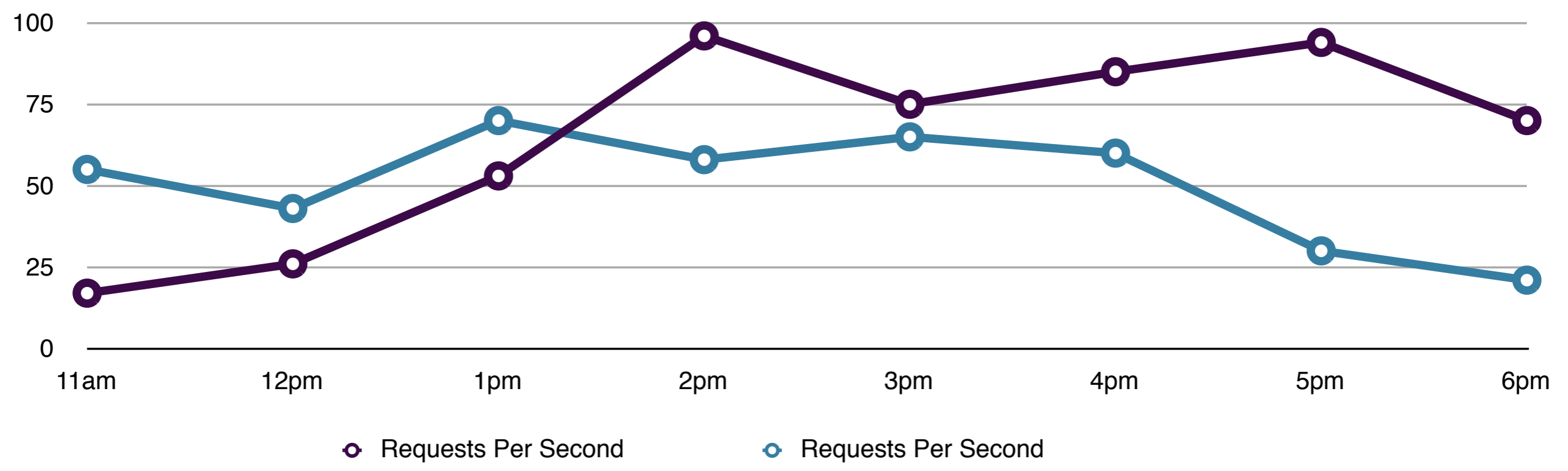
<http://www.flickr.com/photos/poper/71846409/>



0 : 1

Datacentre Distribution

- Most Recent Incidents
- RESOLVED: Network Outage in DC1
 - RESOLVED: Coffee Machine out of



6. Logging

Logging Is A User Interface



<http://www.flickr.com/photos/loty/326761635/>



Agree On A Logging Policy

Allow Reconfiguration Of Logging On The Fly



<http://www.flickr.com/photos/ollesvensson/3451663493/>

7. Disasters



Sh*t Happens

<http://www.flickr.com/photos/cheesy42/4157090921/>



<http://www.flickr.com/photos/ryangarrett/1187523445/>

Work together on
root cause analysis



<http://www.flickr.com/photos/poper/71846409/>

“Regardless of what we discover, we understand and truly believe that everyone did the best job they could, given what they knew at the time, their skills and abilities, the resources available, and the situation at hand.”

- Retrospective Prime Directive

...and there are lots of ways to say 'Sorry'

A close-up photograph of a person's forearm. The word "Oops." is tattooed in black ink on the skin. The letters are in a casual, slightly irregular font. The background is blurred, showing what appears to be a white wall and a yellow object.

Oops.

<http://www.flickr.com/photos/ideaconstructor/2964797754/>



<http://www.flickr.com/photos/quintanaroo/489358037/>



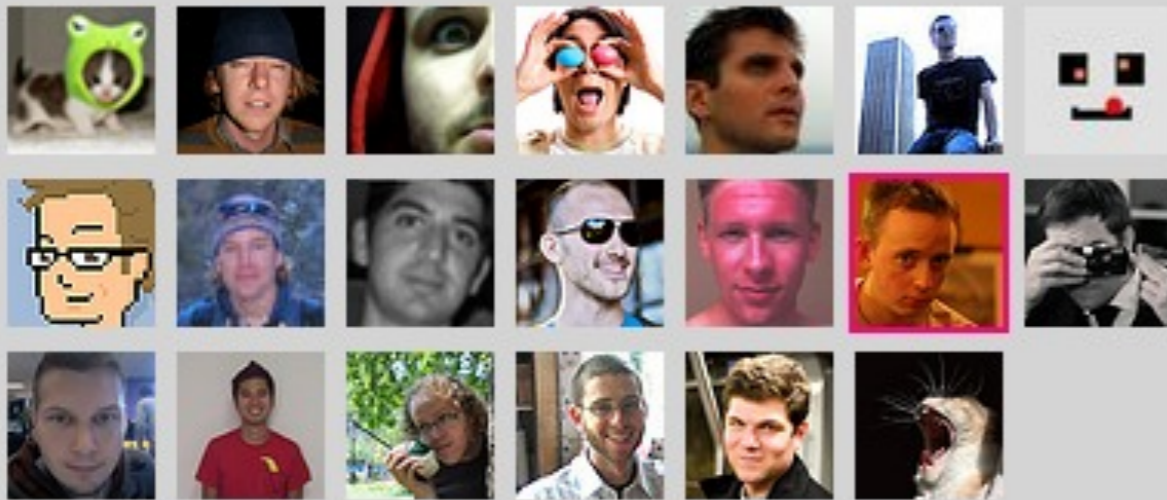
Finally...





The Result?

FEATURING



Flickr was last deployed 16 hours ago, including 8 changes by 2 people.

In the last week there were 48 deploys of 749 changes by 18 people.

<http://code.flickr.com/>



<http://www.flickr.com/photos/ogil/1507585665/>