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Test Automation in Brownfield Applications

My name is Shawn and I'm a software developer

A programmer is going out for a stroll one evening. His wife asks him to swing by the store and pick up a gallon of milk, and if they had eggs, to get a dozen. He returned with twelve gallons of milk and said "They had eggs."


I COULD GIVE YOU MARKETING'S APPROVAL RIGHT NOW...
OR I COULD FLEX MY VICE PRESIDENTIAL POWER AND SEND YOU TO GATHER MORE USELESS DATA... MY EGO WOULD EXPAND AND I'D BE A MAJOR STALLION WITH MY WIFE TONIGHT.
DO YOU THINK YOU CAN TOP THAT?
I'LL TRY, SIR. WHAT'S YOUR WIFE'S ADDRESS?
S. Adams E-mail: SCOTTADAMS@AOL.COM
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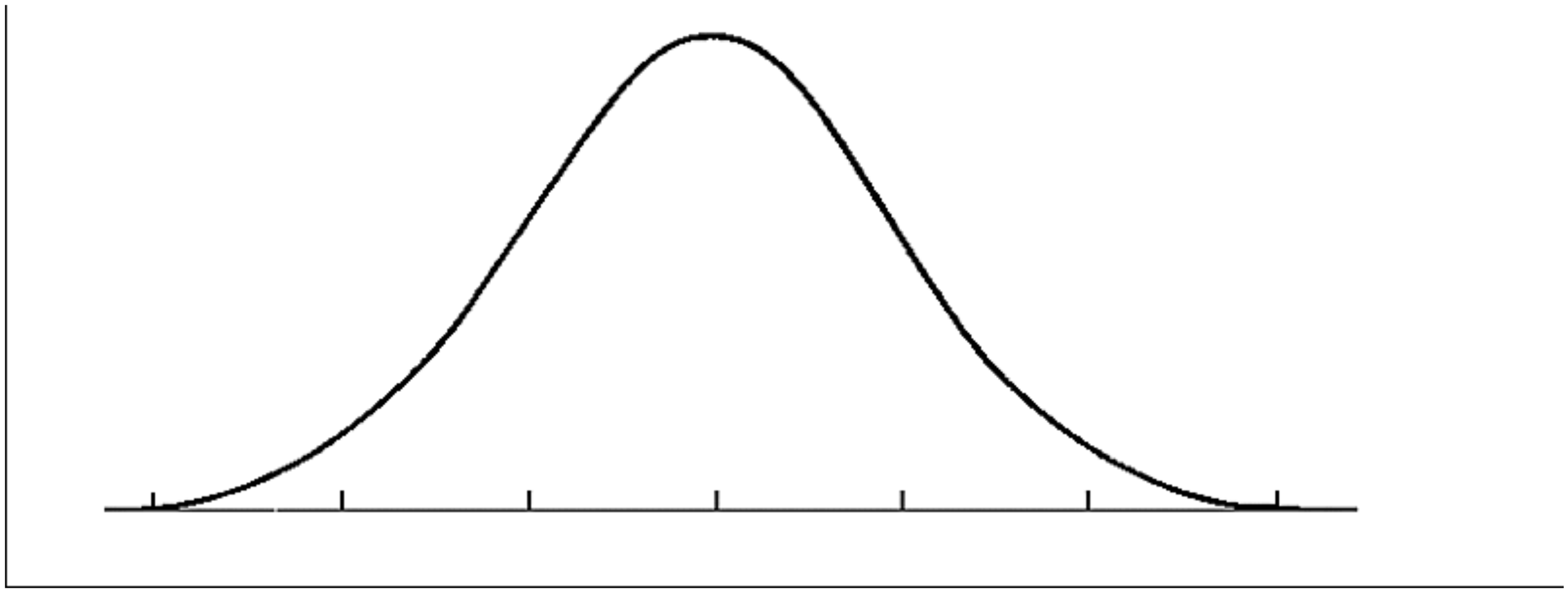
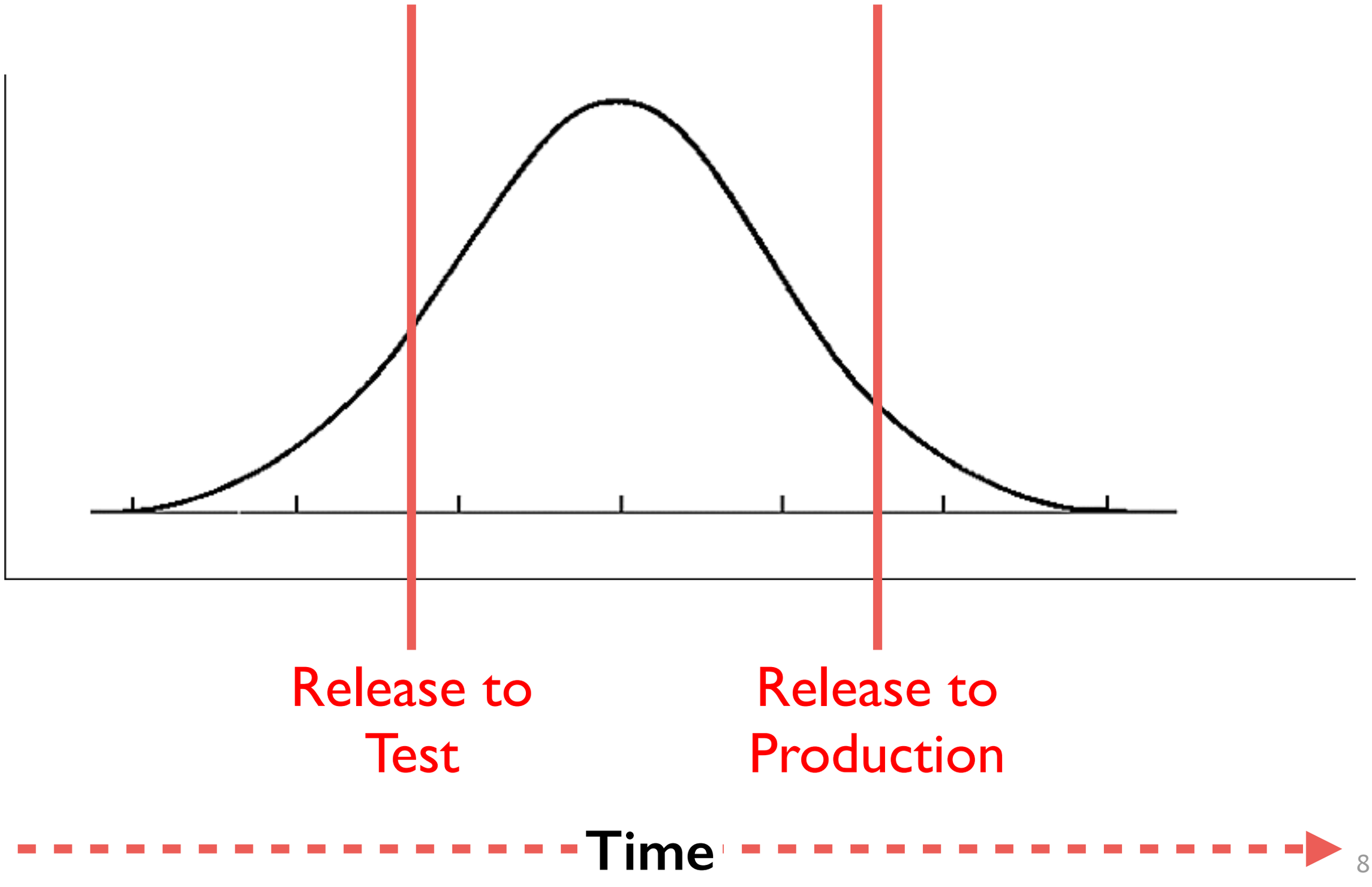
Our existences are about precise communication

Our existences are about precise communication...and communication is about feedback loops

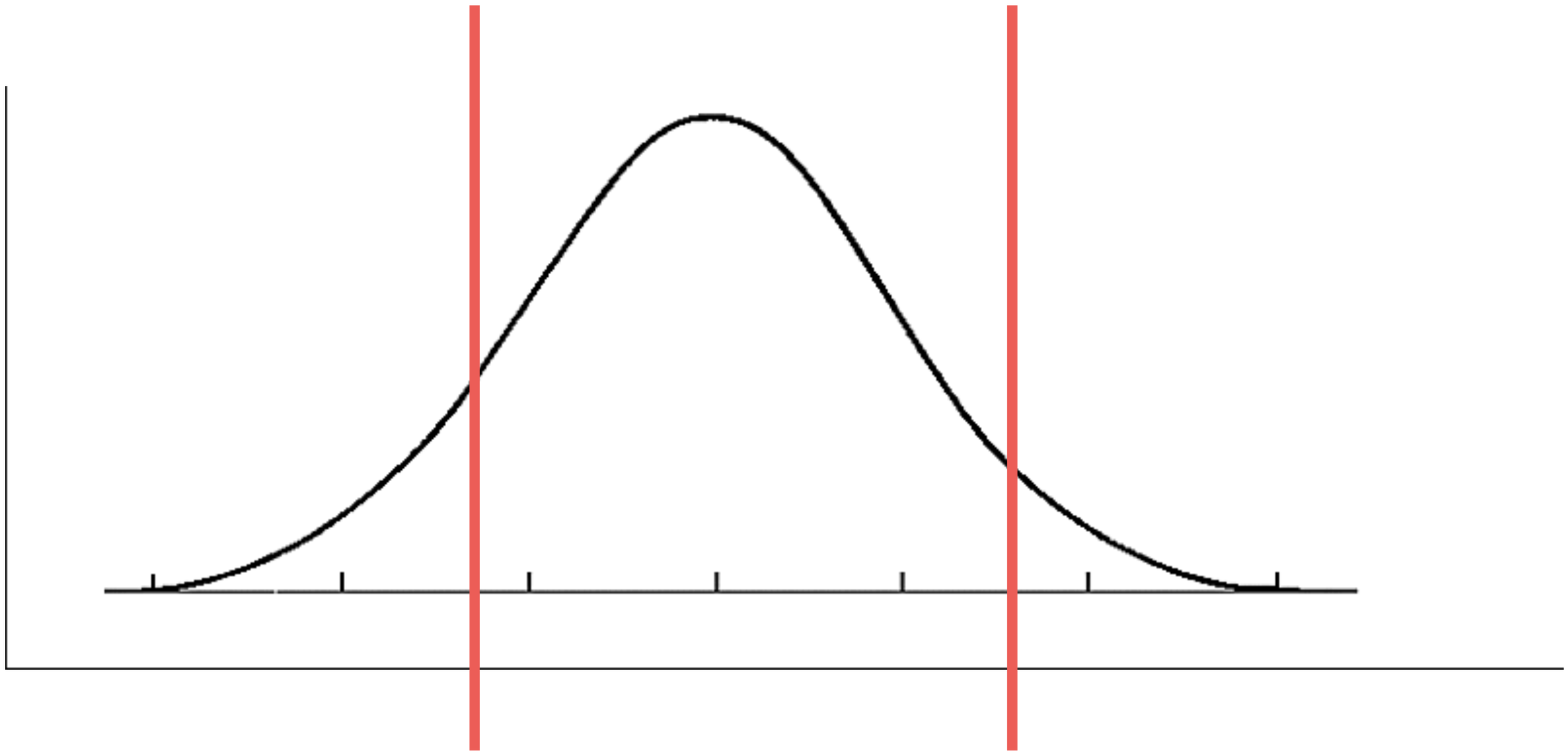

I DON'T ALWAYS TEST MY CODE
BUT WHEN I DO I DO IT IN PRODUCTION
memegenerator.net

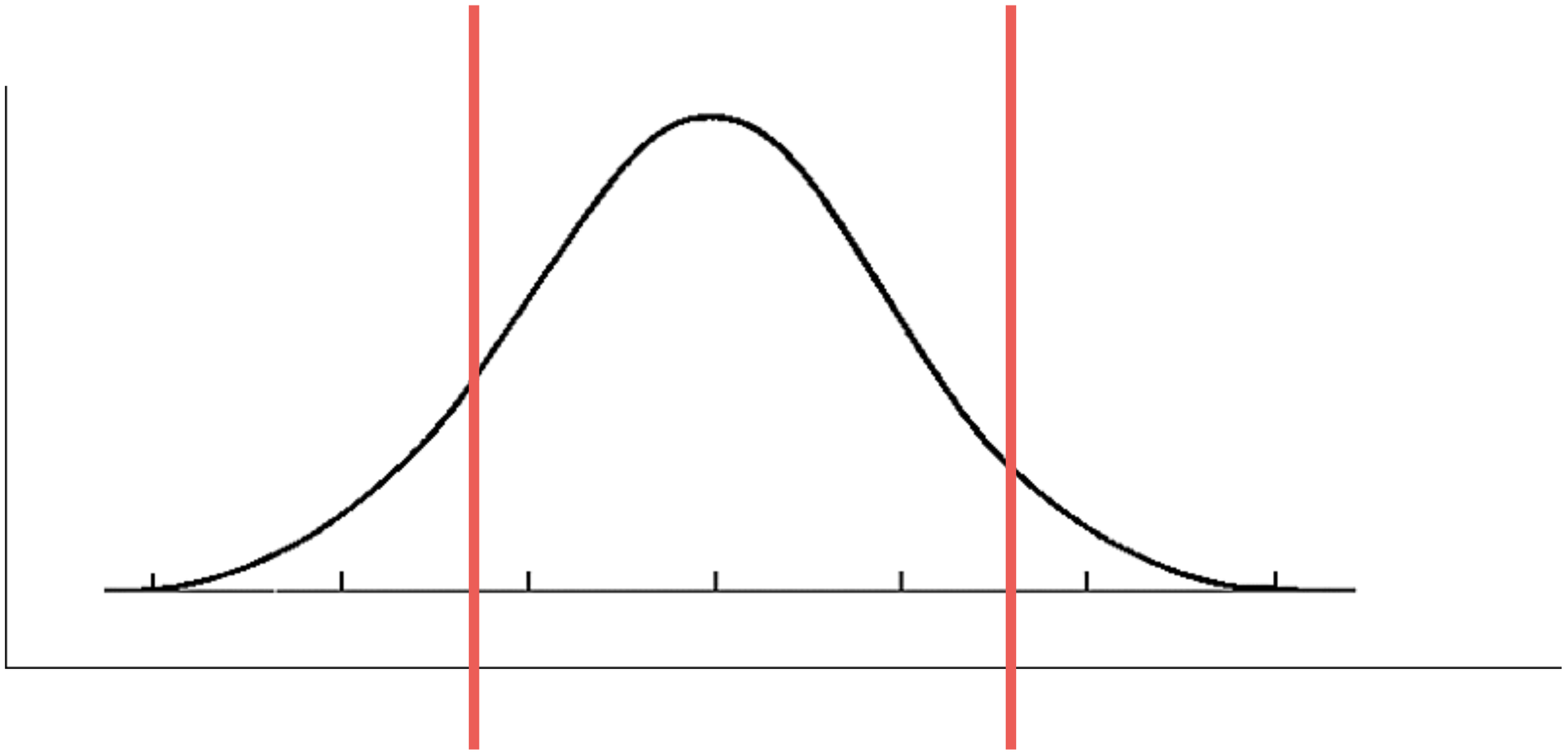


Time


Release to
Test
Release to
Production
Time

Late Defect Discovery Results in Significant Rework

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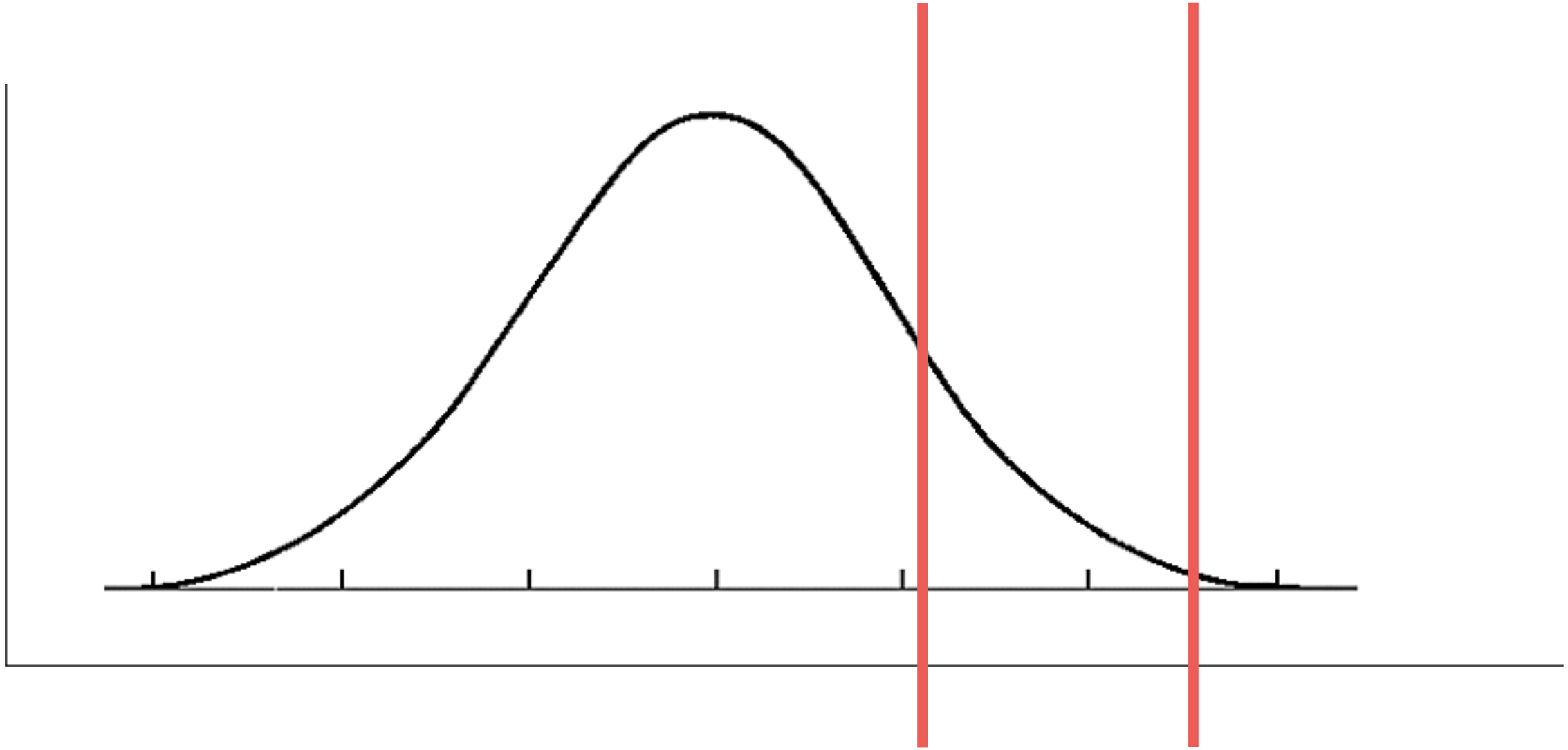
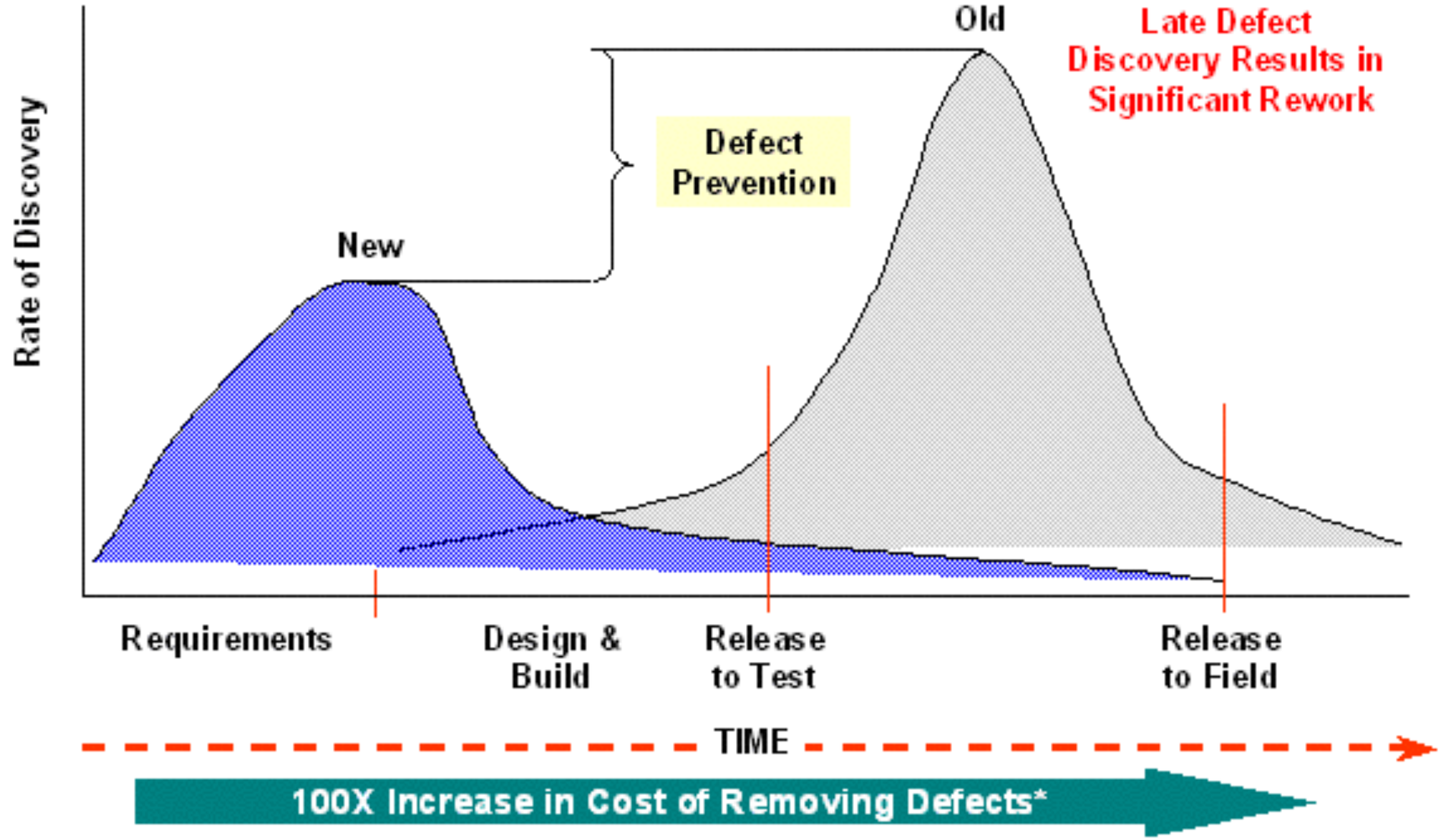

Release to Test
Release to Production
Time

Let's shift the focus from Bug **detection** to bug **prevention**.



Source*: Boehm, Barry. *Software Engineering Economics*. Englewood Cliffs, NJ: Prentice-Hall, Inc. 1981.
Boehm, Basili. "Software Management." *IEEE Computer*, January 2001.

http://www.isixsigma.com/industries/software-it/software-defect-prevention-nutshell/

Functional Acceptance Test Automation

- Implementing changes more efficiently
- Shortened feedback loop
- Higher product quality
- Less rework
- Better work alignment to priority
- Helps make systems easier to modify
- Regression

Functional Acceptance Test Automation

- Implementing changes more efficiently
- **Shortened feedback loop**
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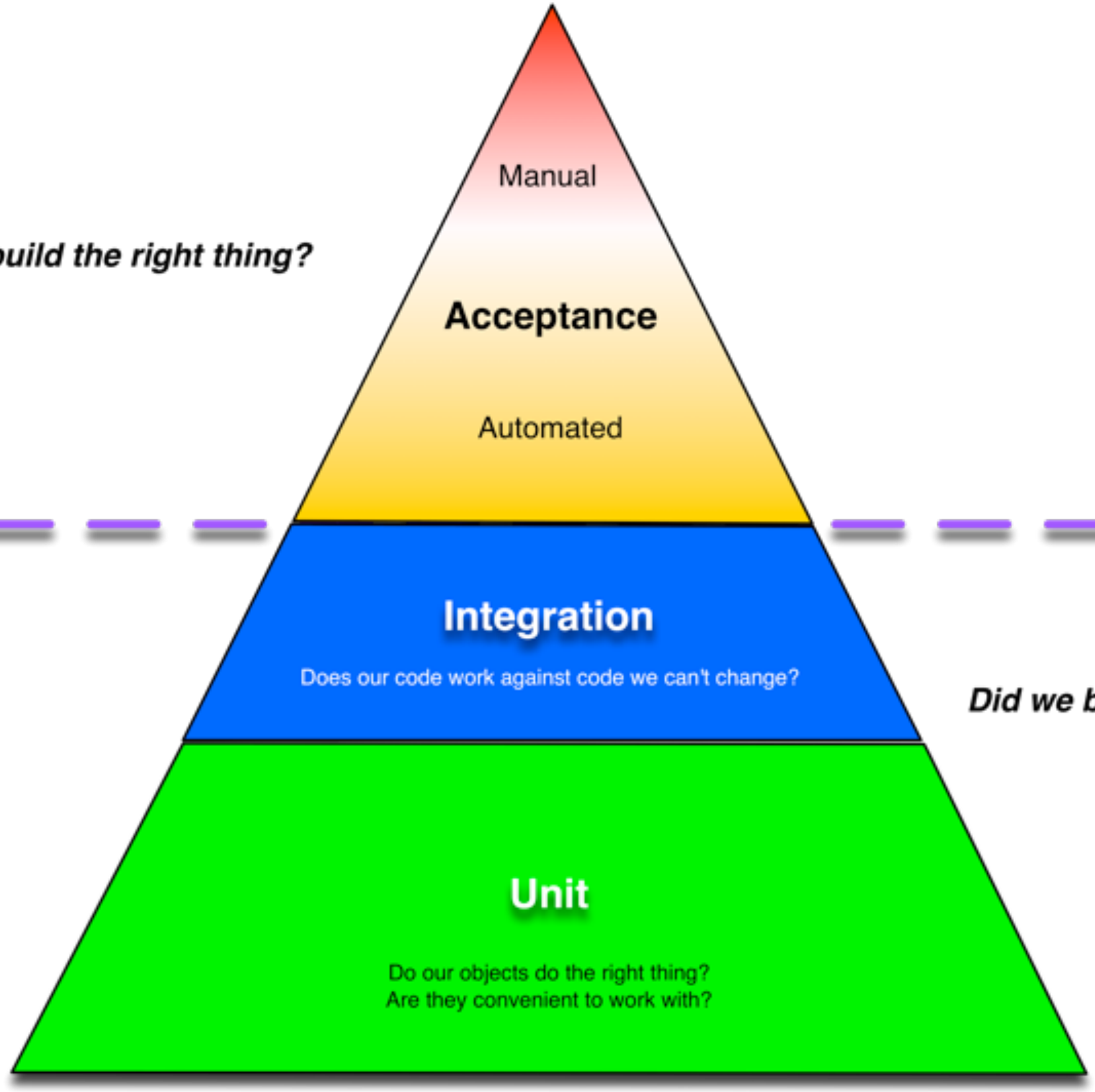
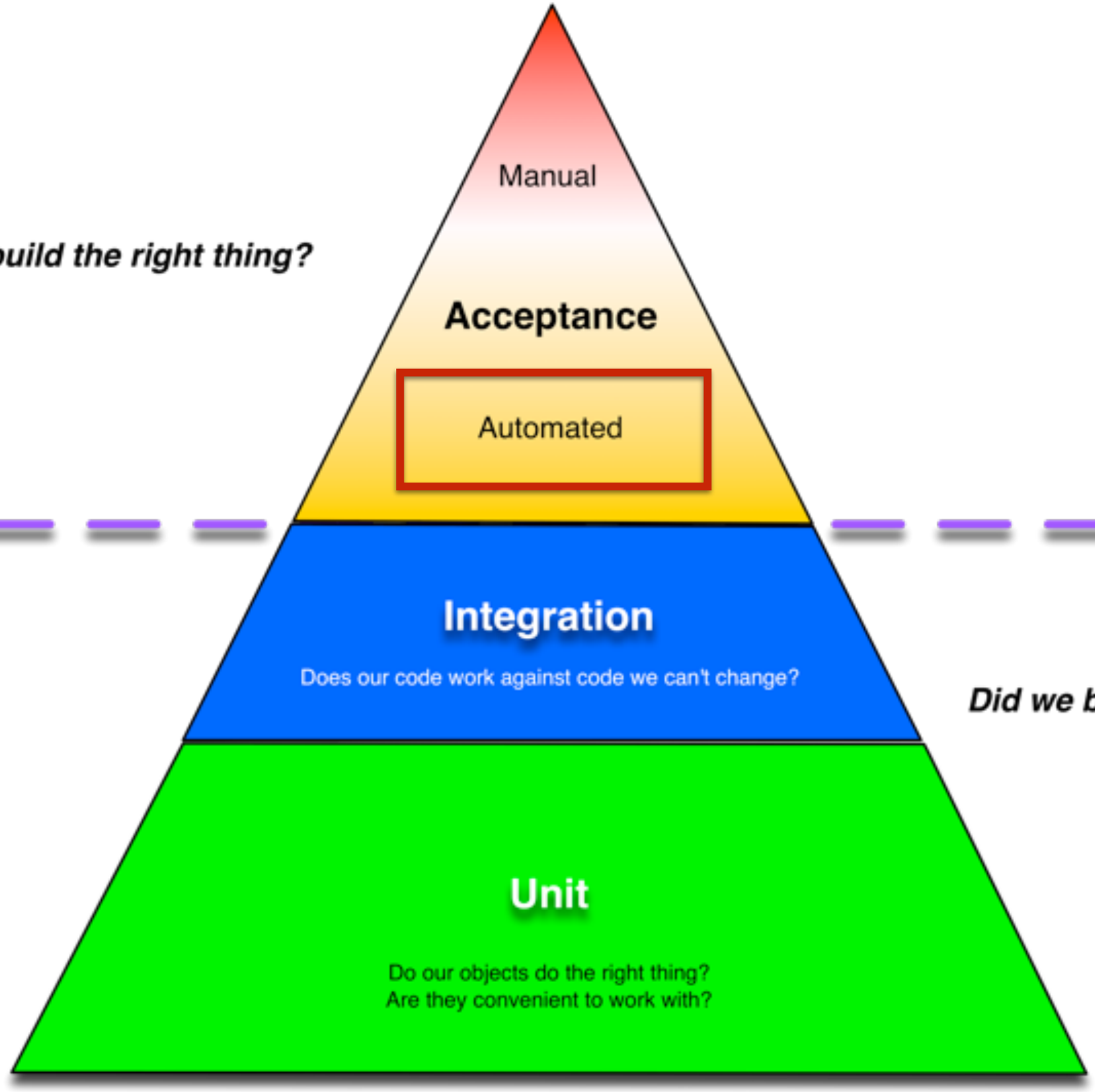
Did we build the right thing?



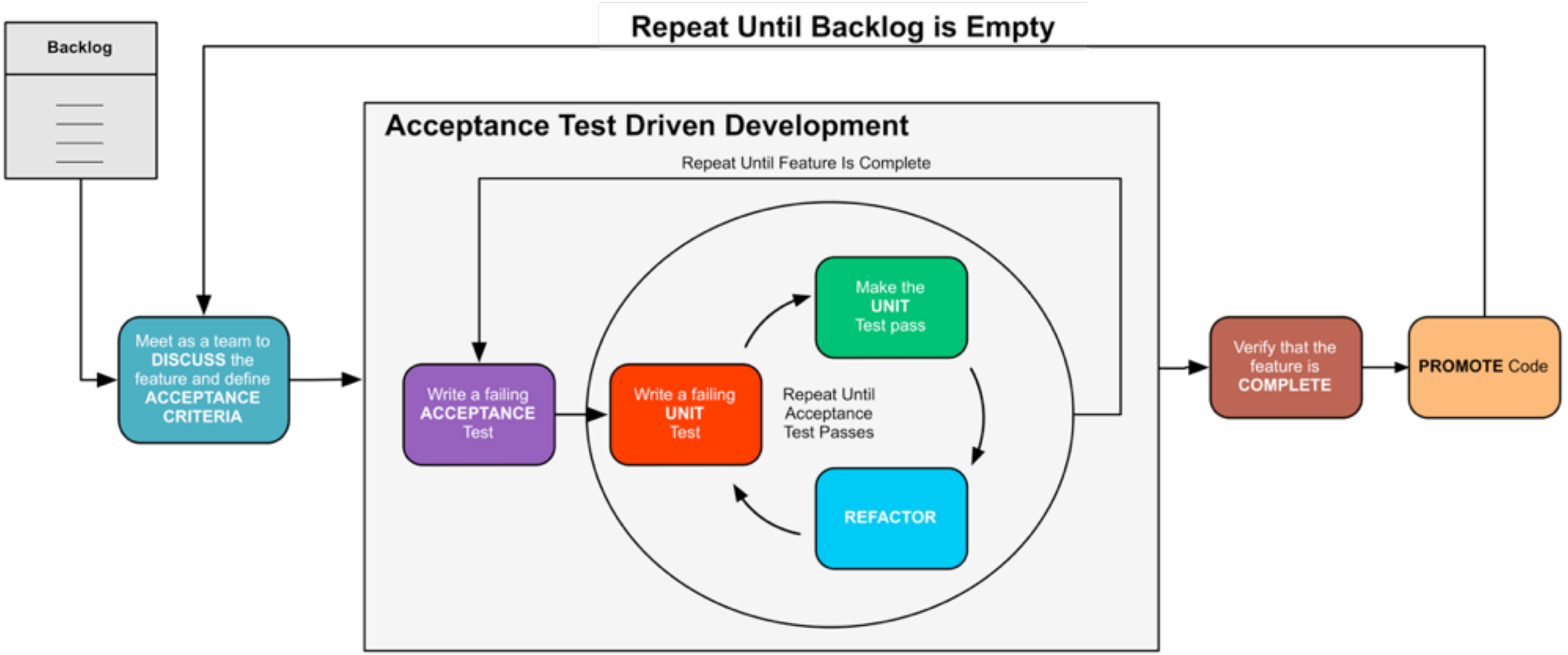
Did we build it right?

Did we build the right thing?



Did we build it right?

Workflow


Backlog
Repeat Until Backlog is Empty
Acceptance Test Driven Development
Repeat Until Feature Is Complete
Meet as a team to DISCUSS the feature and define ACCEPTANCE CRITERIA
Write a failing ACCEPTANCE Test
Write a failing UNIT Test
Make the UNIT Test pass
Repeat Until Acceptance Test Passes
REFACTOR
Verify that the feature is COMPLETE
PROMOTE Code

Brownfield

Applications

Can we benefit?

Can we benefit?

We **can** improve our system going forward

The goal is building **quality systems** that provide **value**

How to start

How to start

- Test KEY use cases

How to start

- Test KEY use cases
- Test defects

How to start

- Test KEY use cases
- Test defects
- Test new features


KEEP
CALM
HERE
THERE BE
DRAGONS

Your application might be hard to test

There are engineering challenges

There are infrastructure challenges

How will you deal with the new volume of data?

How will you deal with the new volume of data?

Test automation generates TONS of data, some good some bad, all must be processed.

How do we know if we're doing a good job?

Meaningful code coverage is hard.

- Your code might be hard to test
- There are engineering challenges
- There are infrastructure challenges
- If a goal is a shortened feedback loop, how will you deal with the new volume of data?
- How do we know if we're doing a good job?
- Meaningful code coverage is a challenge.

Shawn Wallace

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Blog: blog.shawnewallace.com
http://www.about.me/shawnwallace

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Q&A
For more information...

- This Presentation on GitHub - https://github.com/shawnewallace/intro-to-atdd.git
- cukes.info
- Gojko Adzic
  - cuke4ninja.com
  - Specification by Example
- https://github.com/aslakhellesoy/cucumber/wiki
- http://groups.google.com/group/cukes
- http://www.cheezyworld.com
- The Cucumber Book, Matt Wayne, Aslak Hellesøy: http://pragprog.com/book/hwcuc/the-cucumber-book
- The Rspec Book, David Chelimsky: http://www.pragprog.com/titles/achbd/the-rspec-book
- http://simpleprogrammer.com/2011/11/21/understanding-the-vertical-slice/
- http://www.deltamatrix.com/2012-04-17-04-37-50/horizontal-and-vertical-user-stories-slicing-the-cake