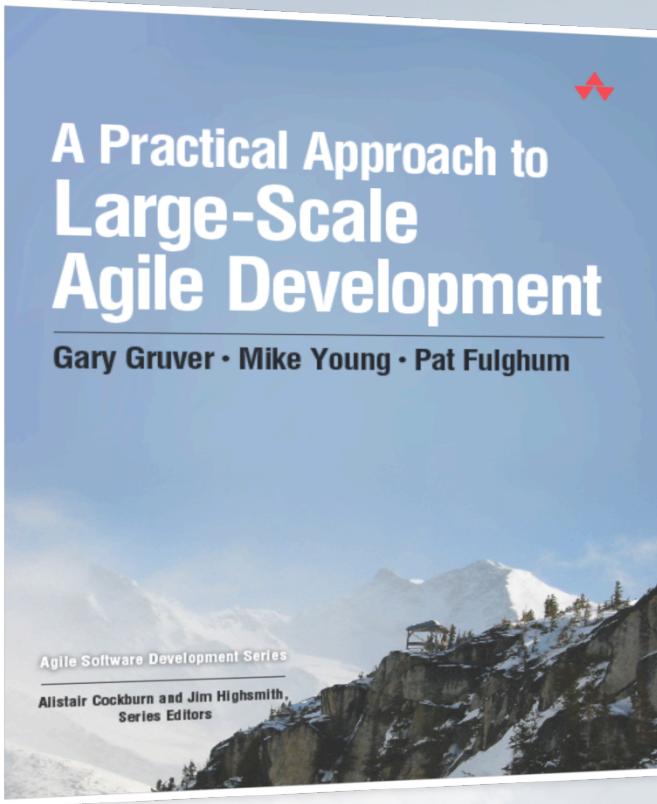




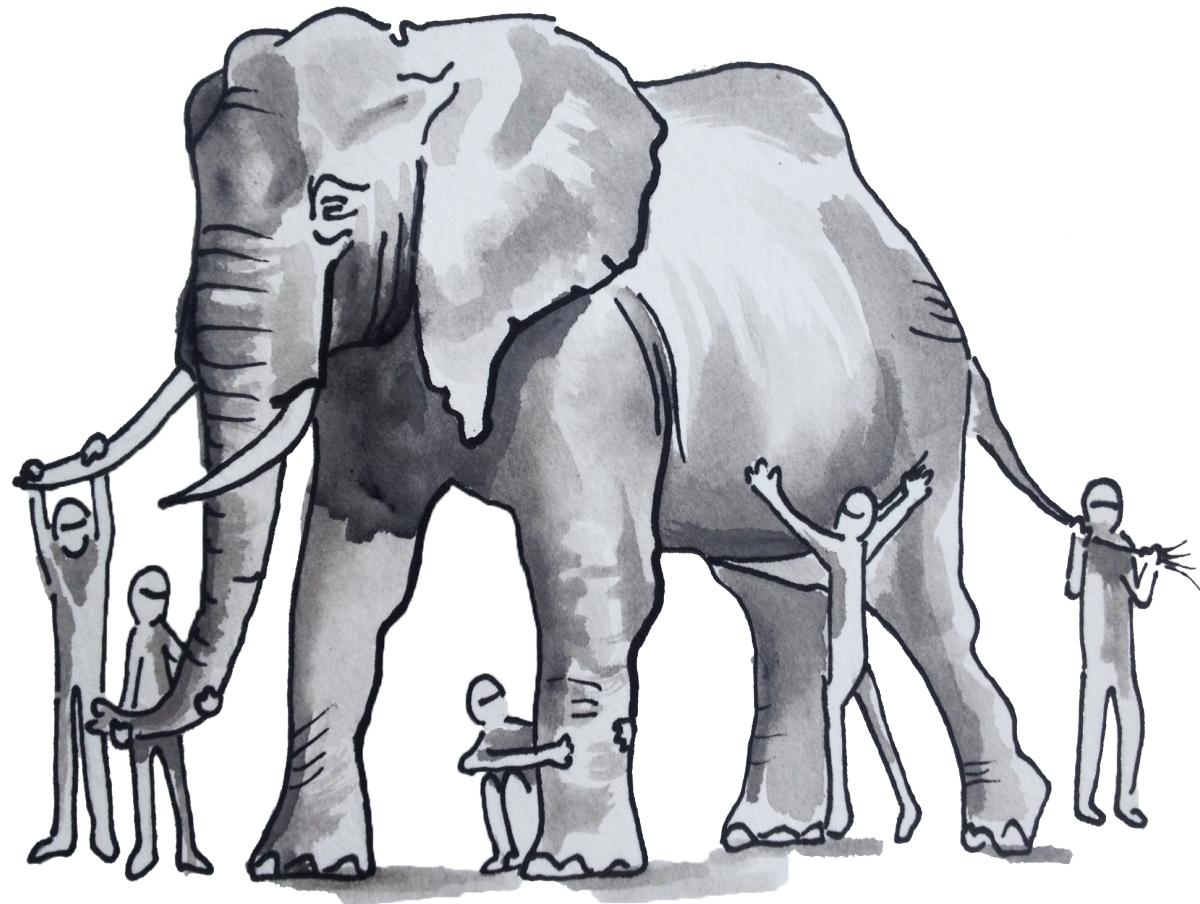
Leading the Transformation

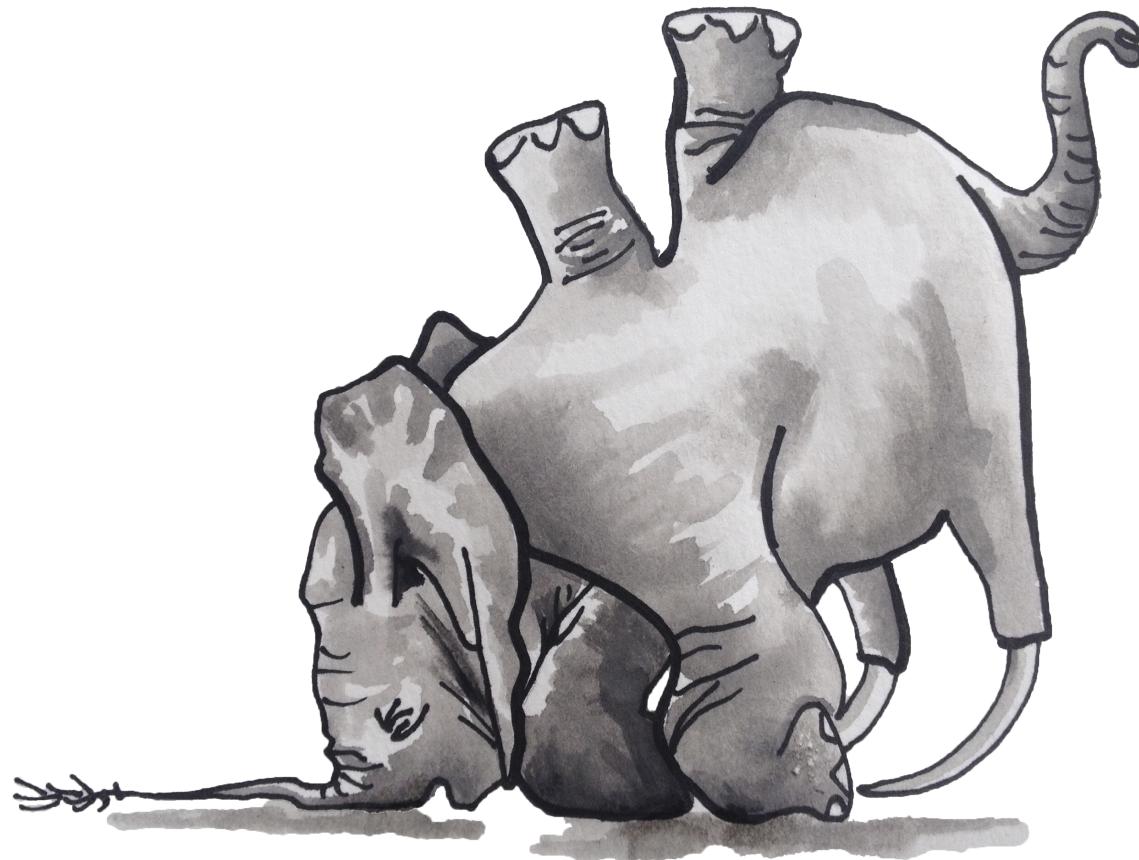
“Applying DevOps and Agile Principles at Scale”

Gary Gruver



- Development costs reduced from \$100M/yr. to \$55M/yr.
- FW no longer a bottleneck for the business
- 140% increase in the number of products under development
- Capacity for innovation increased from ~5% to ~40%





A black and white close-up portrait of Gene Kim. He has dark hair, wears glasses, and has a beard. He is looking slightly to the right of the camera.

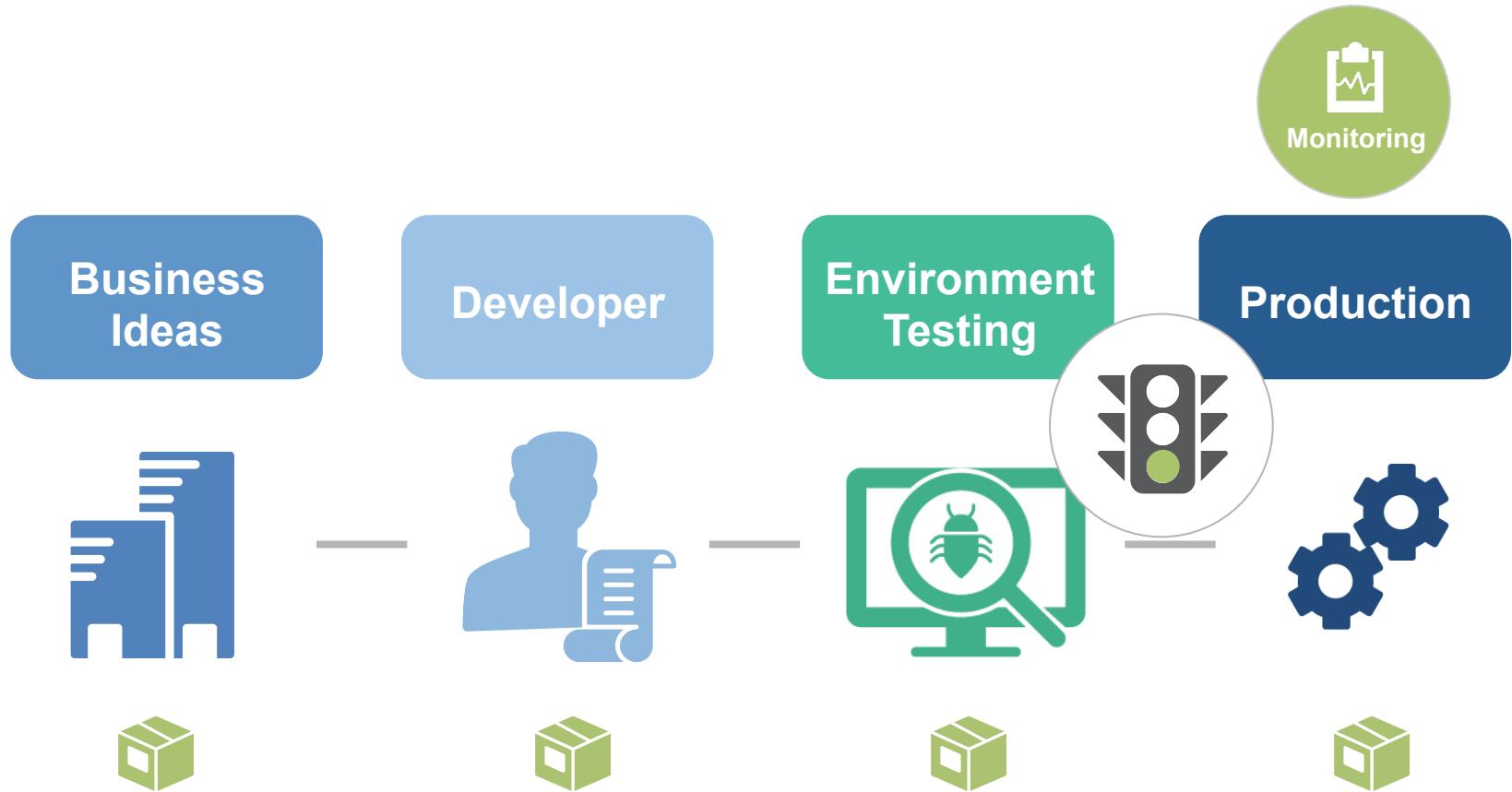
Gene Kim Quote

“

This is my personal definition: I would define DevOps by the outcomes. In my mind, DevOps is those set of cultural norms and technology practices that enable the fast flow of planned work from, among others, development, through tests into operations while preserving world class reliability, operation and security.

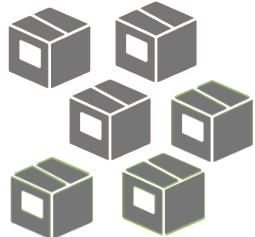
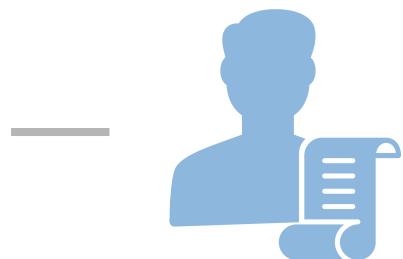
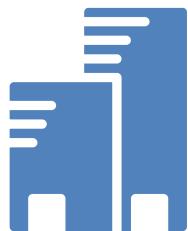
DevOps is not about what you do, but what your outcomes are. So many things that we associate with DevOps fits underneath this very broad umbrella of beliefs and practices—which of course, communication and culture are part of them.

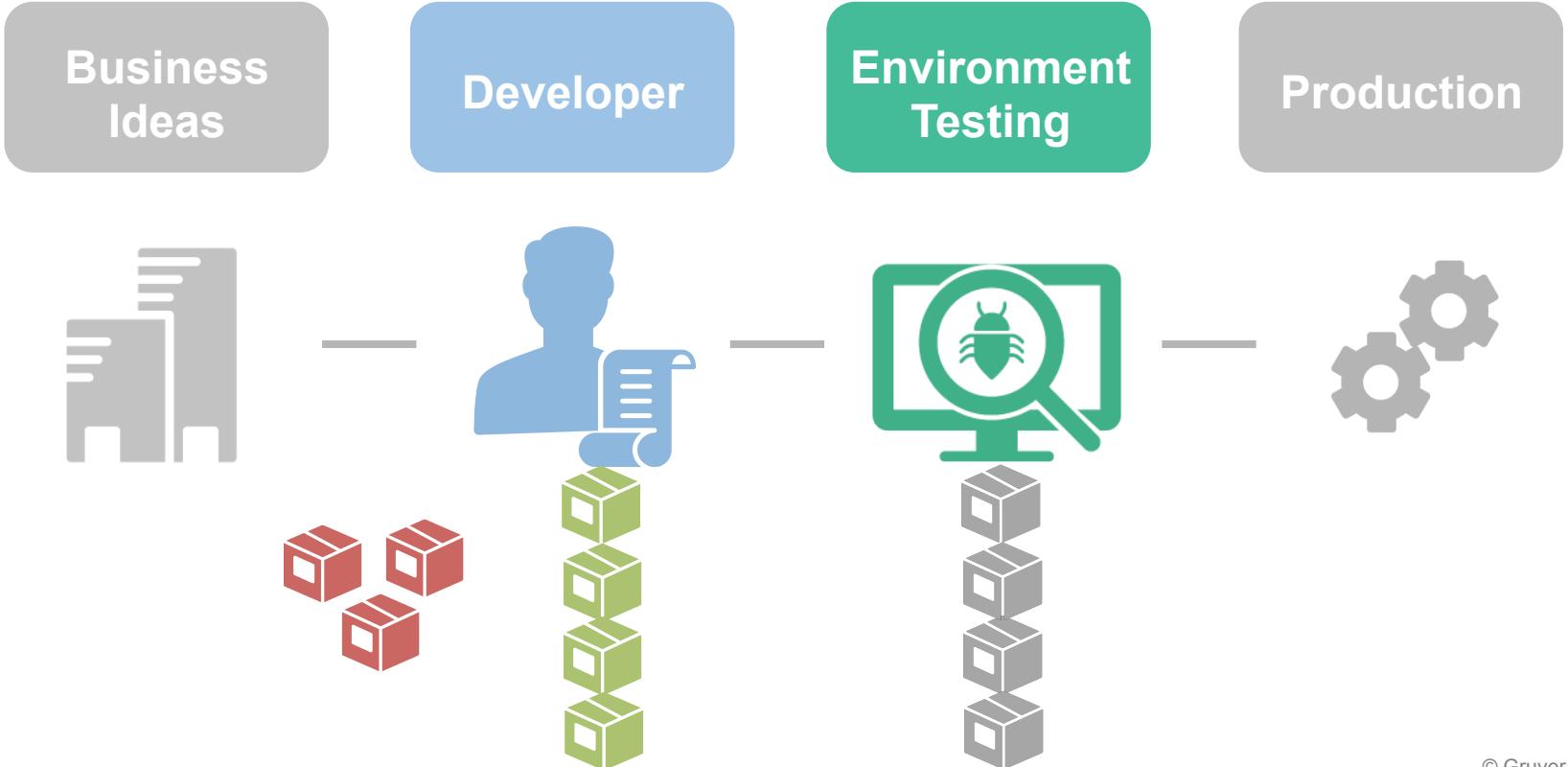
”

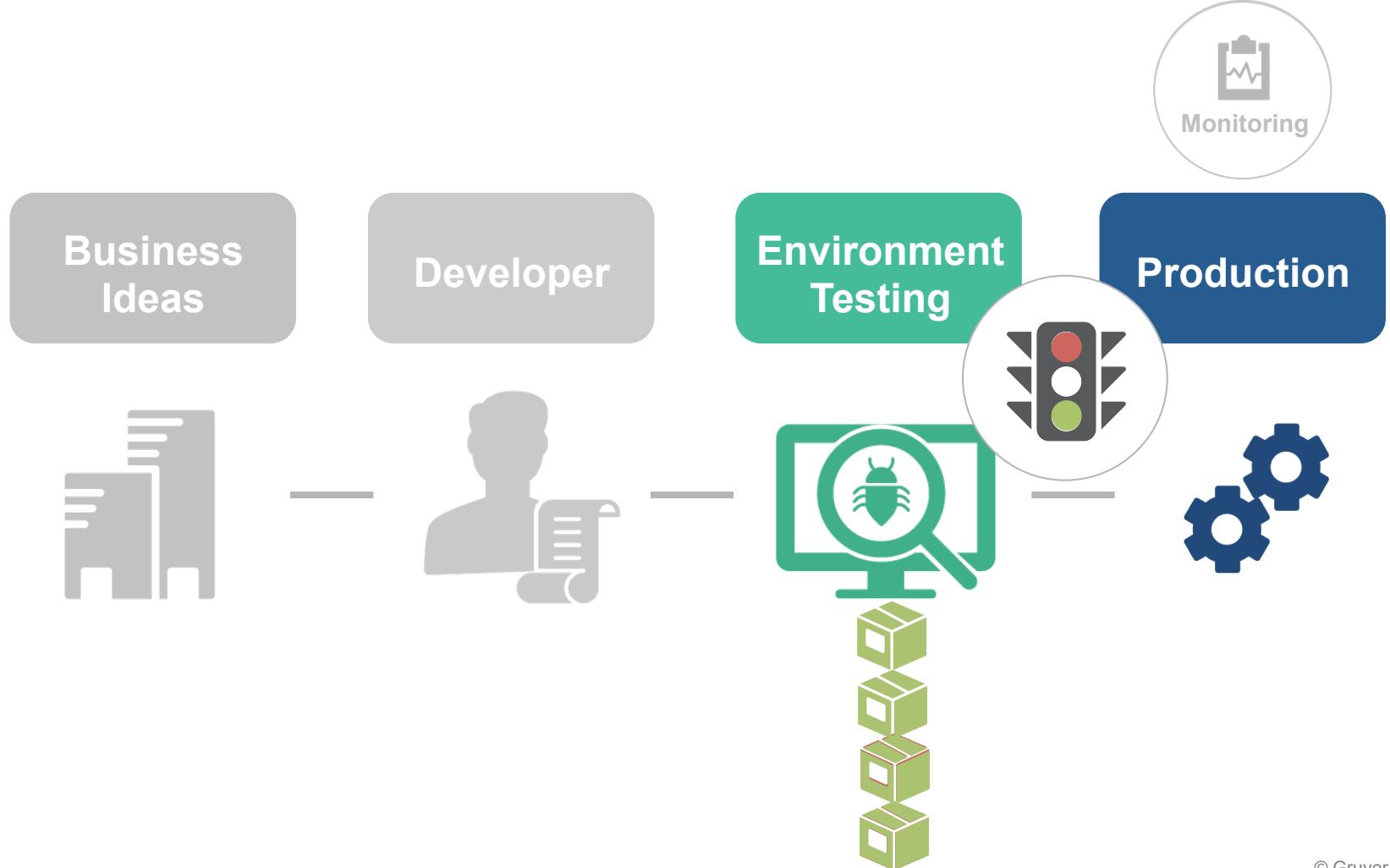


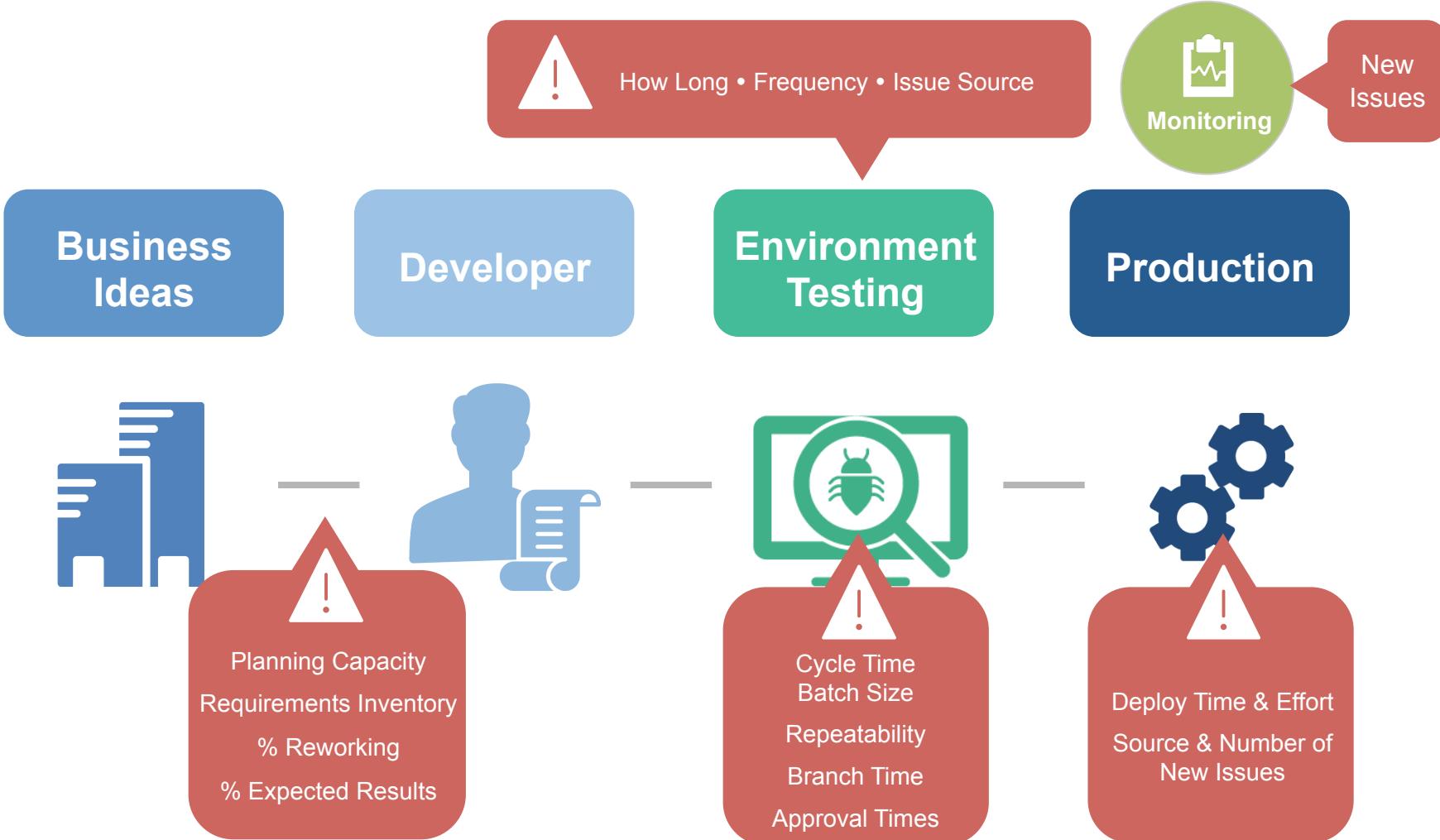


Monitoring

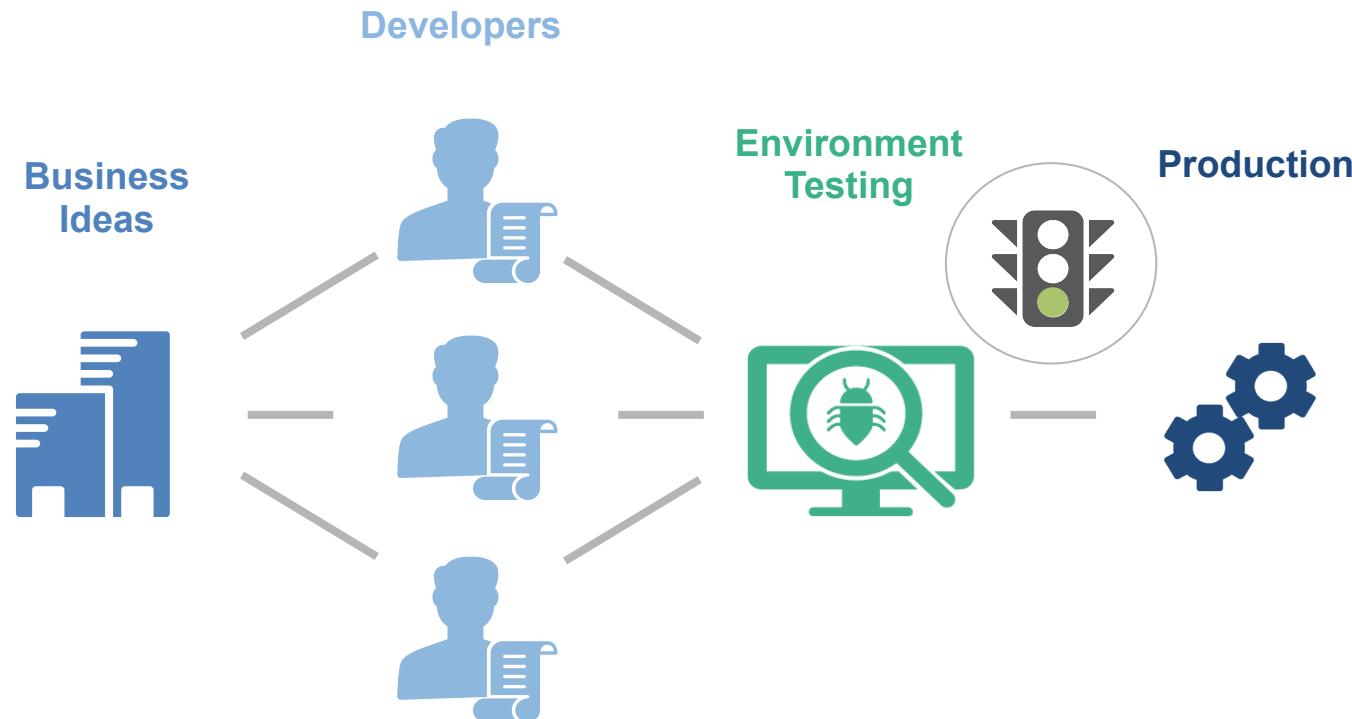




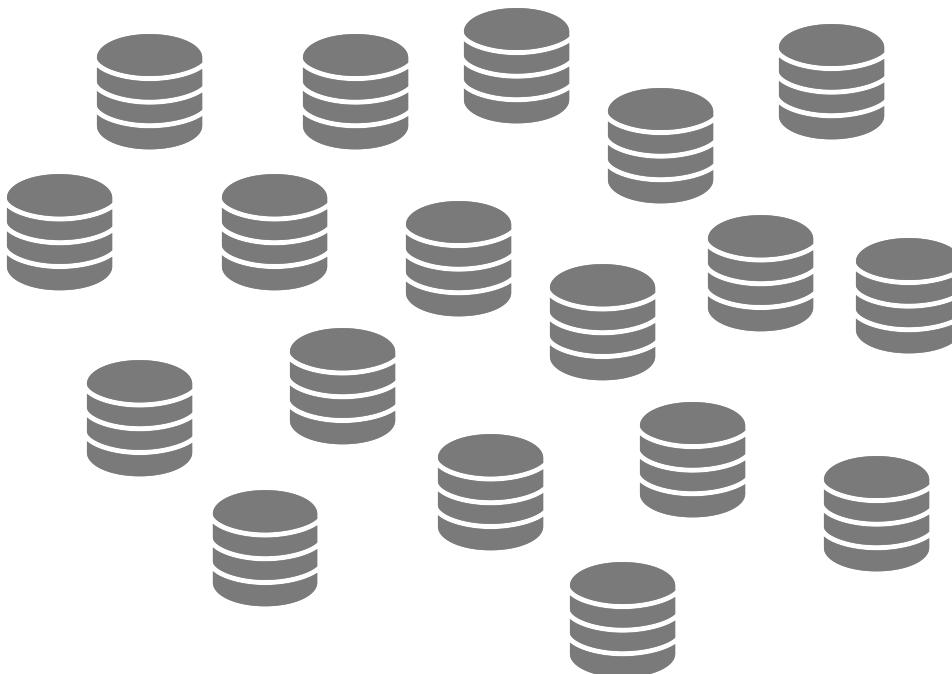




Scaling to CI

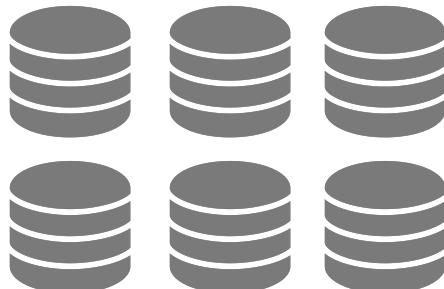


Segmenting

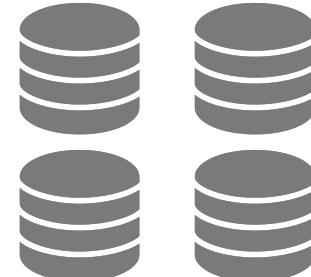


Segmenting

Business Critical

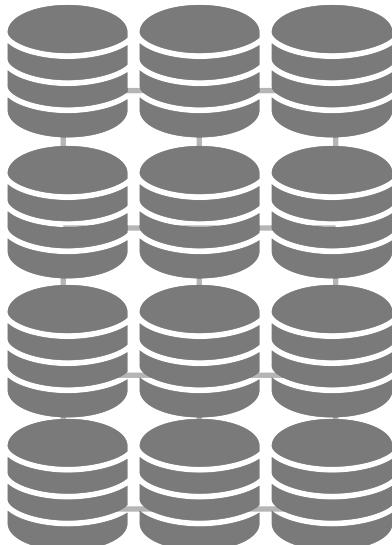


Non Business Critical

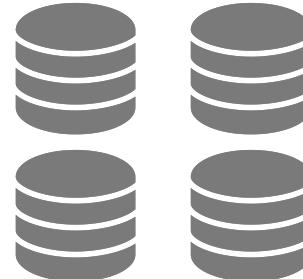


Segmenting

Tightly Coupled



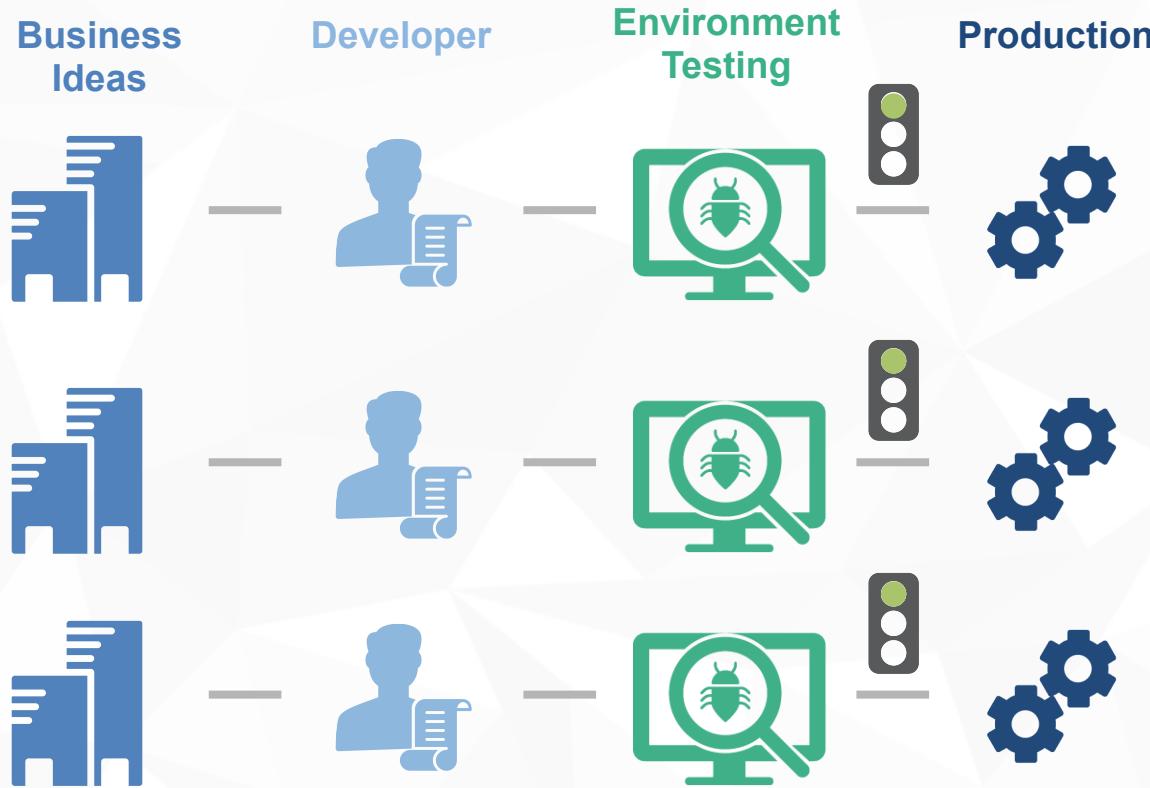
Non Business Critical



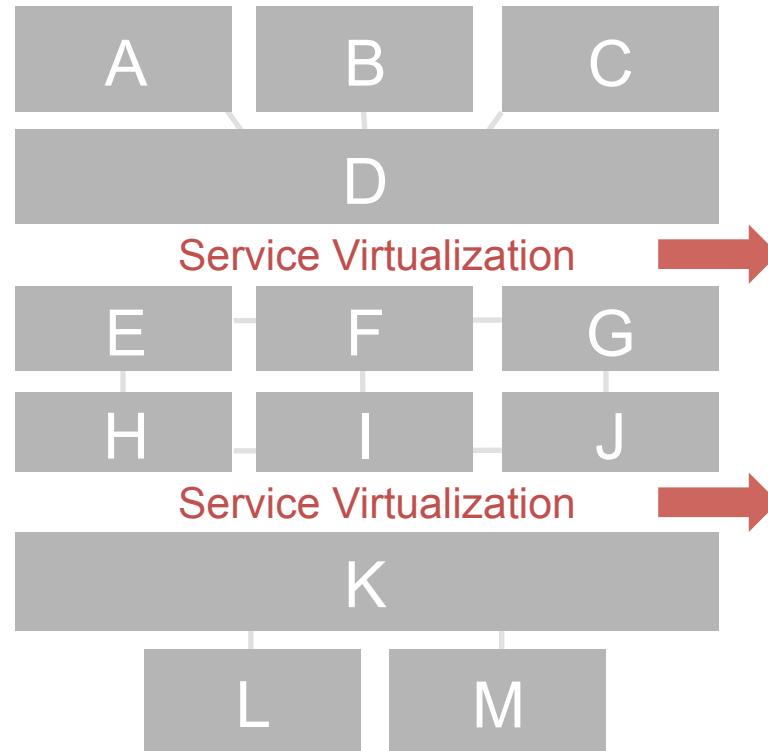
Loosely Coupled



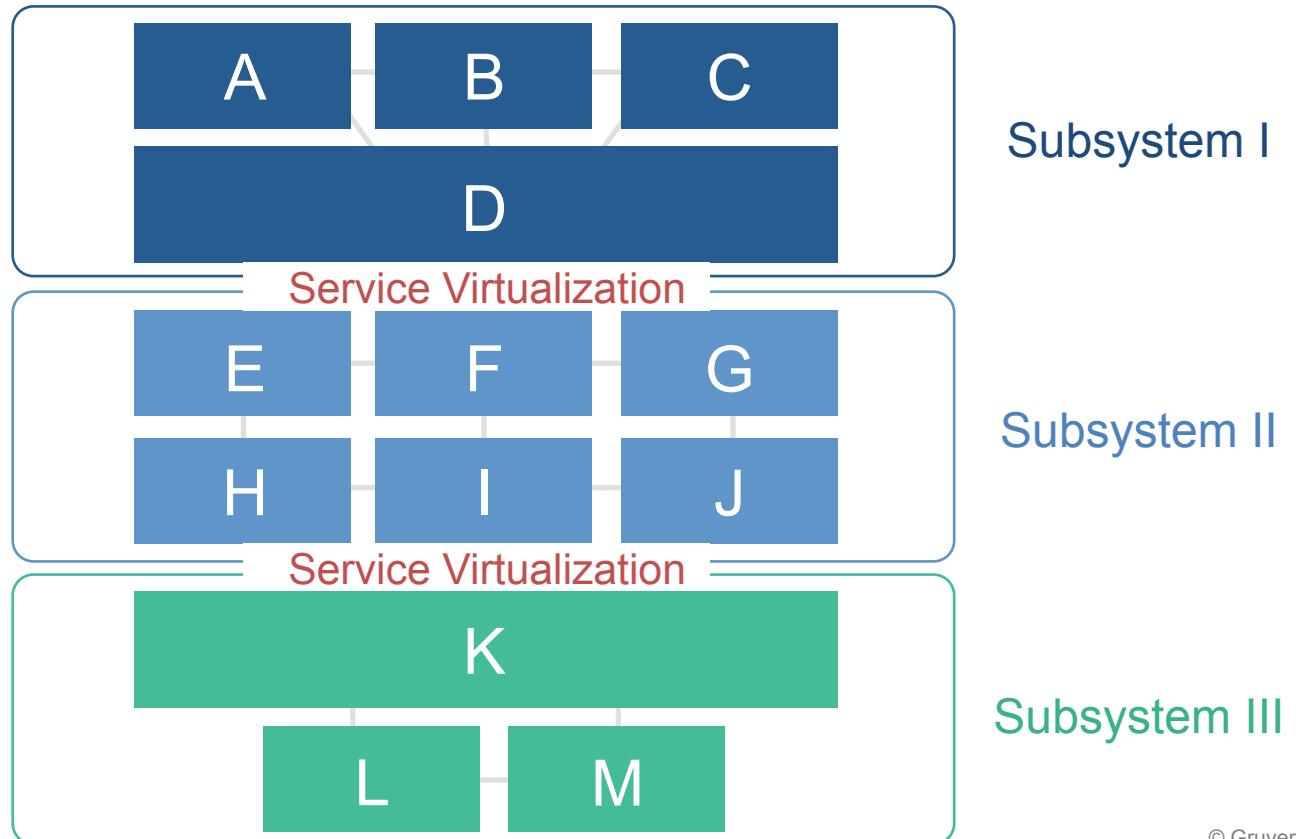
Loosely Coupled



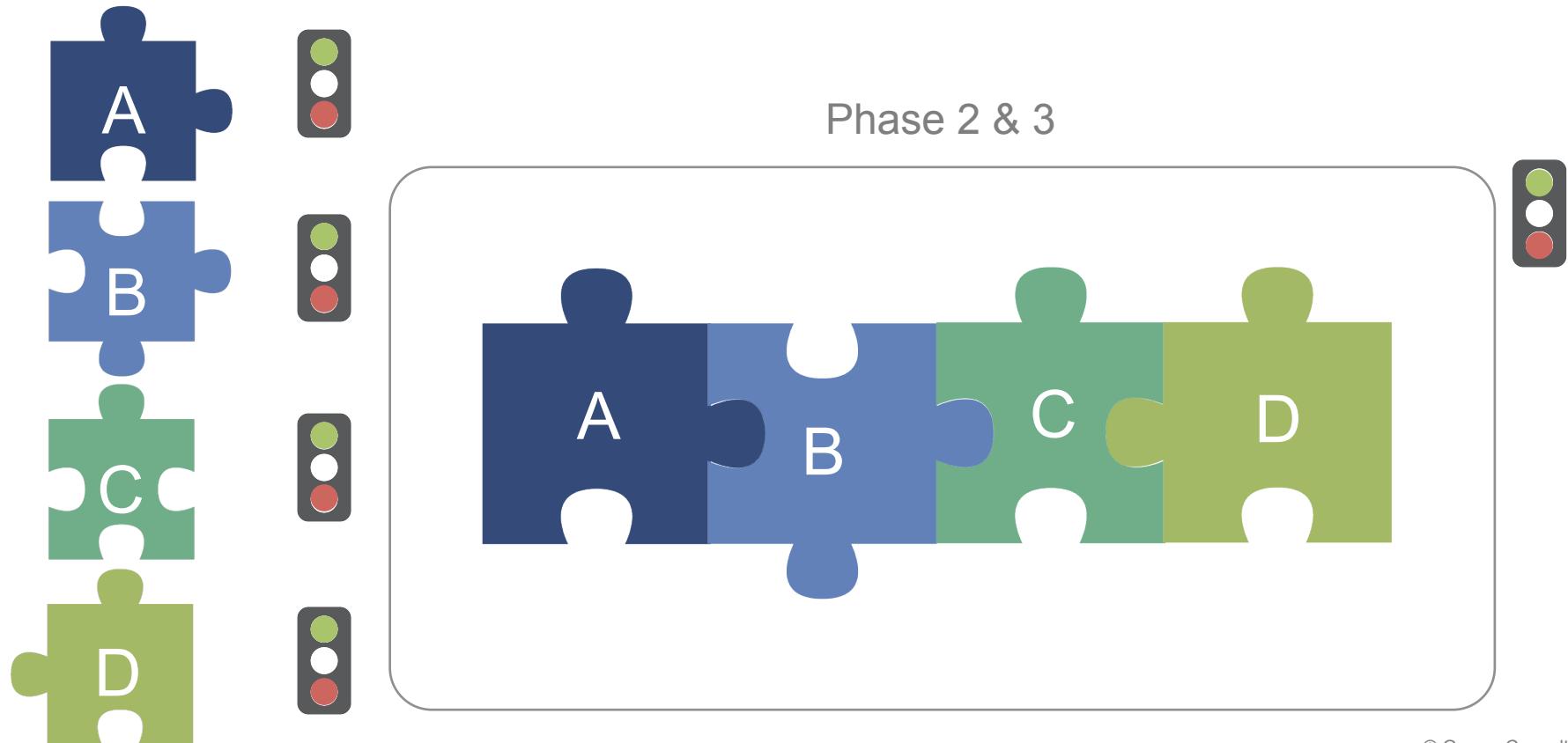
Tightly Coupled Architecture



Segment with SV



Subsystem I Deployment Pipeline



Full System Deployment Pipeline

Stage 3

Subsystem I



Stage 4
BAT

Subsystem II



Stage 5
Regression



Stage 6
Production



Subsystem III



Full System Deployment Pipeline

Stage 3

Subsystem I



Stage 4

BAT

Subsystem II



Subsystem III



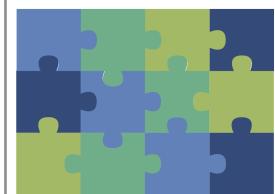
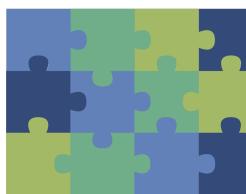
Stage 5

Regression



Stage 6

Production



Cycle Time and Batch Size Map

Stage 3

Subsystem I

4 Hours



Subsystem II

3 Days

1 Day to deploy
2 Days to test



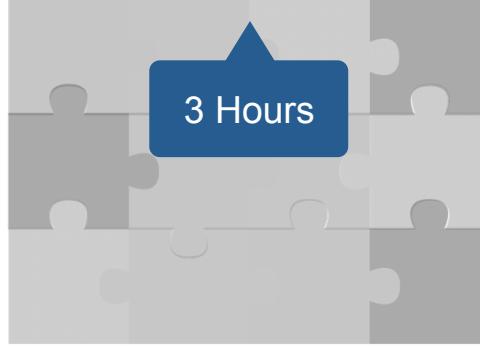
Subsystem III

16 Hours



Stage 4 BAT

3 Hours



Stage 5 Regression

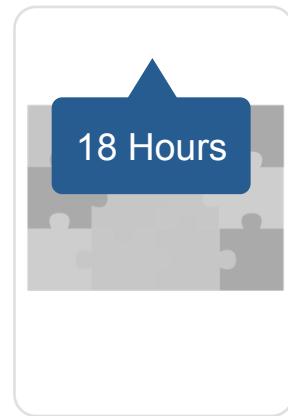
2 Weeks



1 Week

Stage 6 Production

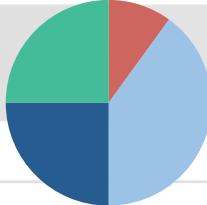
18 Hours



Source of Issue Slide

Stage 3

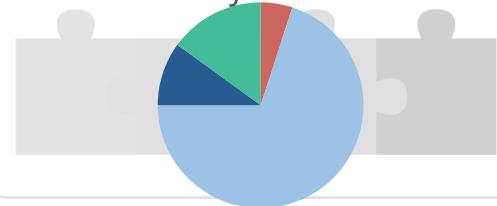
Subsystem I



Subsystem II



Subsystem III



Stage 4 BAT



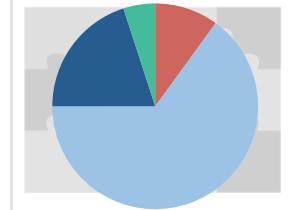
Stage 5 Regression



- Code
- Environment
- Test
- Deploy

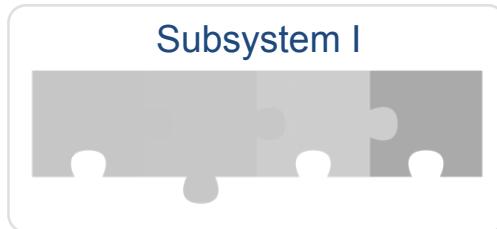


Stage 6 Production



Source of Code Defects

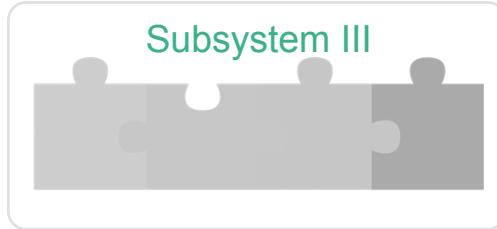
Stage 3



60%

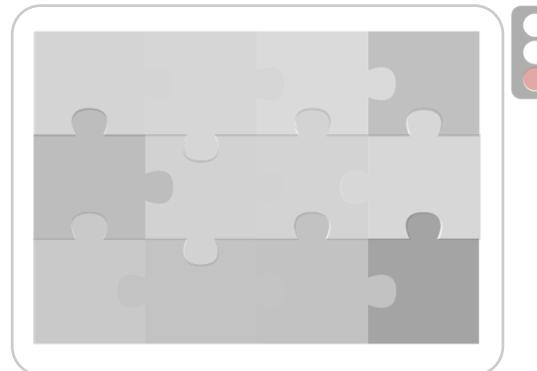


30%

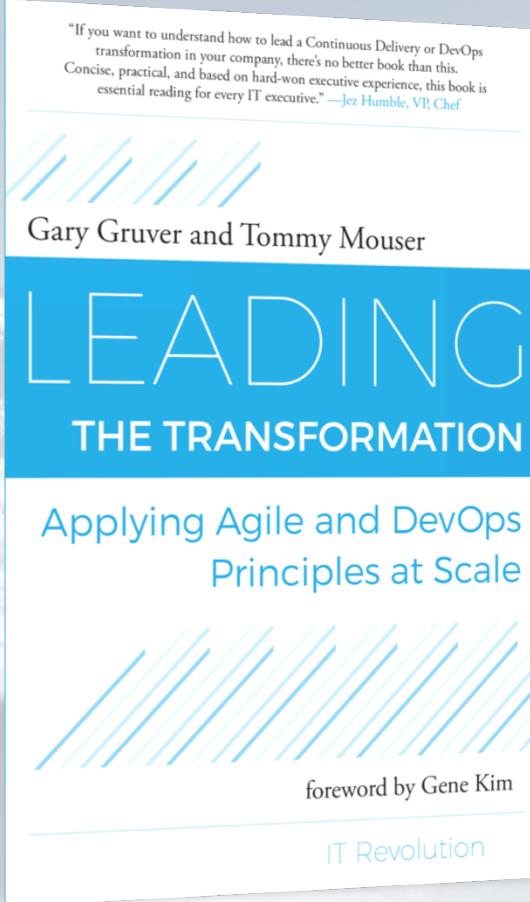


10%

Stage 4 BAT







- FW no longer a bottleneck for the business
- Development costs reduced from \$100M/yr. to \$55M/yr.
- 140% increase in the number of products under development
- Capacity for innovation increased from ~5% to ~40%